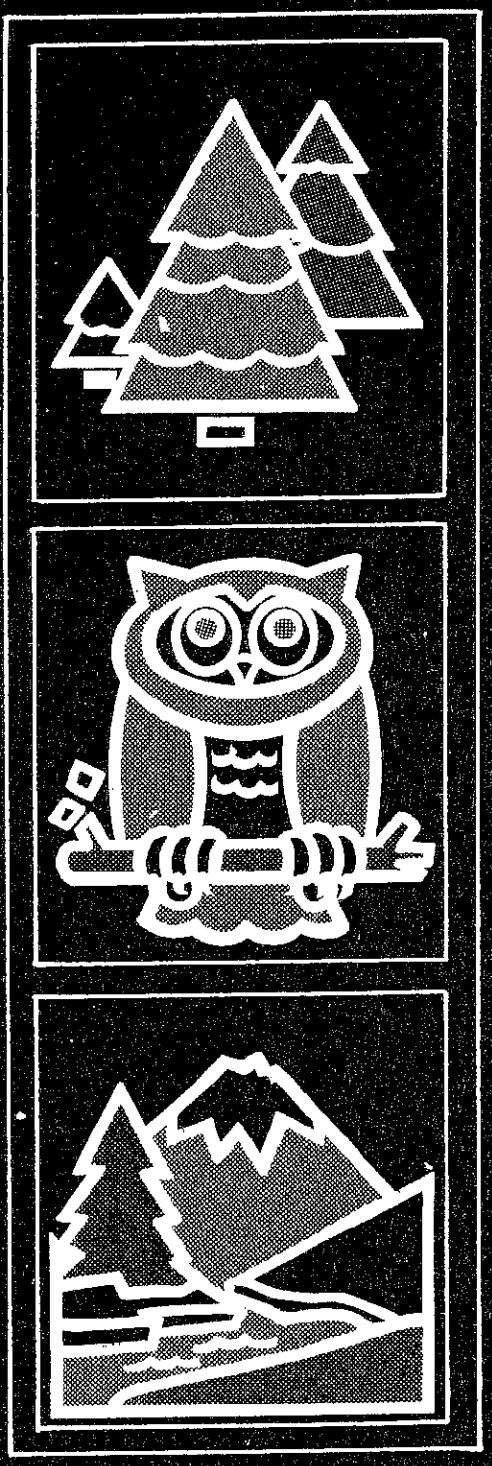
Appendix E



APPENDIX E

WILD AND SCENIC RIVERS

Introduction

Congress enacted Public Law 90-542 on October 2, 1968 known as the Wild and Scenic Rivers Act, which established a National Wild and Scenic Rivers System. The intent of Congress in establishing a national system of Wild and Scenic Rivers is stated in Section 1(b) of the Act:

> "The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

More specifically, Congress established a policy:

> "It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."

The Act named eight rivers as "instant" components of the National System and named "study rivers" for potential additions to the National System. Additional rivers not mentioned may be added to the System. The Act directs the Secretaries of Agriculture and Interior to: "make specific studies and investigations to determine which additional wild, scenic, and recreational river areas within the United States shall be evaluated in planning reports by all agencies as potential alternative uses of the water and related land resources involved."

Under this direction, the Heritage Conservation and Recreation Service (HCRS) in August 1980 released an inventory of rivers that were in a relatively natural, undeveloped condition. Eight rivers or portions of rivers on the Mt. Baker-Snoqualmie National Forest were listed. A revised inventory in 1982 published by the National Park Service listed an additional eight rivers as potentially eligible for designation.

In addition to NPS inventory rivers, the Regional Forester directed that all forests examine for eligibility any river that was requested by a public interest group or a large number of individuals. Thirty-one rivers or extensions of rivers were added for study as a result of environmental or recreation user group interest.

In summary, 47 rivers were studied for eligibility, covering approximately 765 miles of river. These were presented in the Draft EIS for the Forest Plan. Five of these rivers were determined to be eligible and were recommended in the Draft preferred alternative for designation into the Wild and Scenic River System.

Appendix E

Introduction

Table E-1

Eligibile Rivers Studied for Designation - In Miles

Inventoried River	Total Studied	USFS Inside Wilderness	Inside National Park	Private	Found Suitable, Recommended for Designation - Alt J
Silesia Creek	10.4	6.4	4.0	0.0	0.0
North Fork Nooksack	43.3	1.3	2.2	31.8	43.3
Wells Creek	6.0	1.5	0.0	0.1	0.0
Middle Fork Nooksack	20.0	1.0	0.0	9.1	0.0
South Fork Nooksack	39.5	1.0	0.0	32.1	9.6
Bell Creek	3.0	0.0	0.0	0.0	3.0
Baker River	13.3	0.0	10.0	0.0	13.3
Noisy Creek	6.1	2.4	2.7	0.7	6.1
Diobsud Creek	10.5	6.0	0.0	1.1	10.5
Illabot Creek	15.3	4.3	0.0	4.3	15.3
Buck Creek	11.1	10.1	0.0	0.0	11.1
Downey Creek	10.8	10.0	0.0	0.0	10.8
White Chuck River	22.5	10.5	0.0	0.0	22.5
North Fork Sauk River (Extension)	9.2	9.0	0.0	0.0	9.2
South Fork Sauk River (Extension)	8.4	1.0	0.0	0.3	0.0
North Fork Stillaguamish	49.8	0.0	0.0	35.9	0.0
North Branch	5.1	0.0	0.0	0.0	0.0
Deer Creek	23.5	0.0	0.0	9.1	0.0
Boulder River	13.0	9.0	0.0	1.0	13.0
South Fork Stillaguamish	52.5	0.0	0.0	31.0	52.5
Canyon Creek (to fork)	11.9	1.3	0.0	0.5	0.0
South Fork Canyon Creek	8.4	0.0	0.0	9.7	0.0
Skykomish River including South Fork Skykomish	48.6	0.0	0.0	44.1	28.3
North Fork Skykomish	28.6	6.8	0.0	5.4	28.6
Troublesome Creek	4.5	2.3	0.0	0.0	4.5
West Cady Creek	7.5	2.5	0.0	0.2	7.5
Tye River	14.5	0.0	0.0	2.0	14.5
Miller River (to fork)	3.7	0.0	0.0	0.8	3.7
West Fork Miller River	6.3	2.1	0.0	0.2	6.3
East Fork Miller River	6.8	0.8	0.0	0.0	6.8
Foss River (to fork)	4.4	0.0	0.0	1.1	4.4
West Fork Foss River	4.6	3.1	0.0	0.8	4.6
East Fork Foss River	7.9	6.7	0.0	0.5	7.9
Beckler River	13.5	0.0	0.0	3.2	0.0
Rapid River	13.0	7.0	0.0	1.7	0.0
Deception Creek	10.3	9.8	0.0	0.0	10.3
South Fork Tolt River	5.4	0.0	0.0	2.0	0.0
North Fork Snoqualmie River	26.2	1.0	0.0	18.1	12.1
Lennox Creek	7.2	0.3	0.0	0.0	0.0
Middle Fork Snoqualmie	39.7	6.4	0.0	15.0	39.7
Taylor River	8.2	1.2	0.0	0.2	8.2
Pratt River	9.5	1.6	0.0	1.2	9.5
South Fork Snoqualmie River	30.6	0.0	0.0	19.5	0.0
Carbon River	32.4	0.0	9.0	21.7	0.0
White River	37.7	0.0	13.3	15.9	37.7
Clearwater River	9.8	3.6	0.0	5.8	0.0
Greenwater River	21.4	8.4	0.0	4.5	0.0
	795.9	138.4	41.2	330.6	451.8

Public comment on the Draft EIS indicated overwhelming support for Wild and Scenic River designation. Almost 2,000 letters, response forms and petitions were received. Every river studied except Silesia Creek was mentioned by name by at least one respondent. The Pratt River was cited by 1,405 respondents. There was strong support from the public and other agencies to reevaluate rivers using a less strict criteria for eligibility, and to assess an additional four rivers not previously reviewed.

Eligibility was re-evaluated on 51 rivers. A group of Forest Service and non-Forest Service specialists were assembled to develop new eligibility definitions and to review additional resource data. As a result, 47 rivers were determined to be eligible for consideration as additions to the Wild and Scenic River System.

This report assesses the eligibility of these rivers, including river miles that are outside the forest boundary. For each river determined eligible, a determination is made of its suitability for inclusion into the National Wild and Scenic Rivers System and its recommended classification of wild, scenic, or recreational.

The 47 rivers listed in this Appendix total 795.9 miles. Table E-1, on the previous page, lists these rivers. Note that portions of these rivers are outside the National Forest boundary, thus requiring cooperative management agreements between the federal government and landowner or other governing body, should the river be designated. Also, there are many encumbered acres showing withdrawals or other private rights.

The Skykomish River System has been designated by the State of Washington as a Scenic River under provisions of the State Scenic River System Act. (RCW 79.72). This designation only applies to city, county, and state lands; it does not apply to Federal lands or private property. This river features runs of anadromous fish, bald eagle feeding and perching areas, old growth habitat, and a variety of boating opportunities.

For convenience, some of the listed rivers have been combined for analysis. For example, the east and west forks of the Miller River are described along with the main stem of the Miller.

Eligibility Determination

The initial phase of the Wild and Scenic River Study process is to determine if each river or segment of river is eligible for inclusion in the National Wild and Scenic Rivers System. In order to make this determination, it is necessary to interpret Section 1(b) of the Wild and Scenic Rivers Act (Public Law 90-542), as quoted above.

Generally, a river must be free-flowing and possess one or more "outstandingly remarkable" resource values. Because the Act does not specifically define "outstandingly remarkable," the Forest developed definitions that would distinguish those "outstandingly remarkable values" that are exceptional, unique, or unusual from a national or regional perspective.

Following are definitions of the outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural and ecological values as used in this analysis.

Outstandingly Remarkable Value - An outstandingly remarkable value is one which is significantly above average for the state, region or nation, even though it may be fairly common within the Mt. Baker-Snoqualmie National Forest.

1. Scenic Value - The area contains a wide variety of unusual or distinctive land or water forms or vegetation patterns, or it contains an impressive example of one particular land or water form or vegetative pattern.

2. Recreation Value - The area provides a diversity of high quality recreation opportunities, or one exceptionally high quality recreation opportunity.

3. Geologic Value - The area displays an individual, unusual or unique geologic feature or a combination of several distinctive geologic features.

4. Fisheries Value - The area contains unique resident or anadromous values for "rare", "relatively rare", or "unique genetic variant" species managed by the State, or high species diversity, very high fish production, or unique fishing experiences. For this Forest, "rare" fisheries values include spring run chinook salmon. "Relatively rare" include sockeye salmon, sea-run Dolly Varden, and summer run steelhead. "Unique genetic variants" for the MBS includes early run coho salmon.

5. Wildlife Value - Habitats for species identified by federal or state agencies as threatened or endangered; or critical habitats of species of concern.

6. Historic Value - Historical events of regional or national interest have occurred within the area, or the area contains physical remains of historical events.

7. Cultural Value - The area contains scientific, paleontological, archeological or cultural resources.

8. Ecological Value - The area contains a high quality example of an unusual ecological community or a plant species of special interest listed by the state or federal government.

In applying these criteria the Forest assembled an interdisciplinary group to evaluate river eligibility. This group studied the information presented under the description for each river. In addition to the ID Teams professional judgement, information and ratings from other sources were used, including: The Nationwide Rivers Inventory, River Recreation in Washington: An Initial Inventory and Assessment, the Pacific Northwest Rivers Study - Washington, and other similar assessments. The results of this evaluation are presented below, in Table E-2.

Forty-seven rivers are judged to possess "outstandingly remarkable" resource features and, thus, eligibility for Wild and Scenic River designation.

Note that the rating criteria listed above do not mechanically or automatically indicate which rivers are eligible and suitable. The Forest has to exercise judgment not only on the specific criteria as they apply to a particular river, but on the river as a whole, and on their relative weights. For this reason, the evaluation guidelines are not absolutes.

Table E-2

"Outstanding Remarkable" Values

Inventoried River	Scenic	Recreation	Geolog.	Fish.	Wildlife	Hist/Cult.	Ecological
Silesia Creek					X		
Nooksack System							
N.F.Nooksack	X	X		X	X	X	
Wells Creek					X		
Bar Creek	.....None Present.....						
M.F. Nooksack					X		
S.F. Nooksack				X	X		
Bell Creek					X		
Baker River	X			X	X		
Noisy Creek					X		X
Diobsud Creek		X			X		
Illabot Creek				X	X		
Skagit System							
S.F. Cascade R.	.....None Present.....						
Buck Creek				X			
Downey Creek				X	X		
Suiattle River (Ext)	.....None Present.....						
White Chuck River	X	X		X	X		
N.F. Sauk (exten.)					X		
S.F. Sauk (exten.)	X				X		
Stillaguamish System							
N.F.Stillaguamish				X	X		
North Branch					X		
Deer Creek				X	X		
Boulder River				X	X		
S.F. Stillaguamish	X	X		X	X	X	X
Jim Creek (to fork)	.....None Present.....						
Canyon Crk. (to fork)				X			X
S.F. Canyon Creek				X	X		X
Skykomish System							
S.F. Skykomish	X	X		X	X		
N.F. Skykomish	X	X		X	X		
Troublesome Creek					X		
West Cady Creek					X		
Tye River	X	X		X	X	X	
Miller R. (to fork)		X		X	X		
W.F. Miller River		X		X	X		
E.F. Miller River		X		X	X		
Foss River (to fork)		X		X	X		
W.F. Foss River		X		X	X		
E.F. Foss River		X		X	X		
Beckler River		X		X	X		
Rapid River		X		X	X		
Deception Creek					X	X	
South Fork Tolt River				X			
Snoqualmie System							
N.F. Snoqualmie River		X		X			
Lennox Creek				X	X		
M.F. Snoqualmie River		X		X	X		
Taylor River		X		X			
Pratt River		X	X	X	X		X
S.F. Snoqualmie River					X	X	
Carbon River	X			X			
White River		X		X	X	X	
Clearwater River				X	X		
Greenwater River				X		X	

Classification of Eligible Rivers

The next step in studying potential Wild and Scenic Rivers was to evaluate eligible rivers and determine their classification. Classification was based on the relative level of development (existing land uses and access) within the river corridor. Each eligible segment qualified as one of three designation categories defined by the Wild and Scenic Rivers Act:

1. Wild river areas - These are rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

2. Scenic river areas - These are rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

3. Recreational river areas - These are rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Applying these criteria the Forest exercised its judgment in determining the most restrictive potential classification of the rivers. The results of the analysis are displayed in Table E-3, Classification of Eligible Rivers, on the following pages.

Potential classification may differ from the Forest Service Recommended classification. For these differences see narrative for each rivers in this appendix.

Table E-3
Classification of Eligible Rivers

Inventoried River	Class.	Length (mi.)	Description
Silesia	Wild	10.4	Headwaters in N. Cascades National Park in NW 1/4 of Sec. 3, T.39N., R.10E., to Canadian border.
N. F. Nooksack	Wild	3.5	Headwaters in N. Cascades National Park in SW 1/4 of Sec. 30, T.39N., R.10E. to Mt. Baker Wilderness boundary.
	Scenic	9.9	Mt. Baker Wilderness boundary to Nooksack Falls diversion dam.
	Rec.	1.6	Nooksack Falls diversion dam to Nooksack Falls power plant.
	Scenic	18.8	Nooksack falls power plant to the fish hatchery near Kendall, Washington.
	Rec.	9.5	Fish hatchery to the confluence with the South Fork Nooksack River.
Wells	Wild	2.6	Headwaters at Galena Chain Lakes to Rd. 33 bridge, E. edge Sec. 16, T.39N., R.8E.
	Scenic	3.4	Road 33 bridge to confluence with N. Fork Nooksack River.
M. F. Nooksack	Wild	2.7	Headwaters on Deming Glacier in NW 1/4 of Sec. 35, T.38N., R.7E. to Ridley Creek.
	Scenic	10.2	Ridley Creek to diversion dam in NE 1/4 of Sec. 19, T.38N., R.6E.
	Rec	7.1	Diversion dam to confluence with N. F. Nooksack River.
S. F. Nooksack	Wild	2.3	Headwaters in SW 1/4 of Sec. 9, T.37N., R.7E. to Bell Creek.
	Scenic	24.3	Bell Creek to Saxon Bridge in SE 1/4 of Sec. 21, T.37N., R.5E.
	Rec.	12.9	Saxon Bridge to confluence with N. F. Nooksack River.
Bell	Scenic	3.0	Headwaters on Loomis Mtn. in NE 1/4 of Sec. 23, T.37N., R.7E., to confluence with S. F. Nooksack River.

Baker	Wild	11.2	Headwaters in North Cascades National Park near Perfect Pass in NE 1/4 of Sec. 28, T.39N., R.11E. to Blum Creek.
	Scenic	2.1	Blum Creek to Baker Lake.
Noisy	Wild	6.1	Headwaters on Bacon Peak in SE 1/4 of Sec. 29, T.37N., R.10E. to Baker Lake.
Diobsud	Wild	8.3	Headwaters on Mt. Watson in SE 1/4 of Sec. 36 T.37N., R.9E. to south section line of Sec. 24, T.36N., R.10E.
	Rec.	2.2	South section line of Sec. 24 to confluence with Skagit River.
Illabot	Wild	4.3	Headwaters in NW 1/4 of Sec. 32, T.34N., R.12E. to Glacier Peak Wilderness boundary.
	Rec.	11.0	Glacier Peak Wilderness boundary to confluence with Skagit River.
Buck	Wild	10.1	Headwaters in NE 1/4 of Sec. 4, T.33N., R.12E. to Glacier Peak Wilderness boundary.
	Scenic	1.0	Glacier Peak Wilderness boundary to confluence with Suiattle River.
Downey	Wild	10.0	Headwaters on Lizard Mtn. in NW 1/4 of Sec. 13, T.33N., R.13E. to Glacier Peak Wilderness boundary.
	Scenic	0.8	Glacier Peak Wilderness boundary to confluence with Suiattle River.
White Chuck	Wild	10.5	Headwaters in NW 1/4 of Sec. 6, T.29N., R.14E. to Glacier Peak Wilderness boundary.
	Rec.	12.0	Glacier Peak Wilderness boundary to confluence with Sauk R.
N. F. Sauk	Wild	9.2	Headwaters in SW 1/4 of Sec. 19, T.29N., R.14E. to the boundary of the designated Wild and Scenic Skagit River in SE 1/4 of Sec. 29, T.30N., R.12E. (Glacier Peak Wilderness Boundary)
S. F. Sauk	Wild	1.0	Headwaters in SE 1/4 of Sec. 28, T.29N., R.11E. to Henry M. Jackson Wilderness boundary.
	Scenic	7.4	Henry M. Jackson Wilderness boundary to confluence with Elliot Creek (to existing W & SR designation).

N. F. Stillaguamish	Rec.	49.8	Headwaters in SE 1/4 of Sec. 17, T.34N., R.9E. to confluence with N. F. Stillaguamish River.
North Branch	Rec.	5.1	Headwaters in NE 1/4 of Sec. 12, T.33N., R.8E. to confluence with N. F. Stillaguamish River.
Deer	Rec.	23.5	Headwaters near Coney Pass in SW1/4 of Sec. 23, T.33N., R.8E. to confluence with N. F. Stillaguamish River.
Boulder	Wild	9.0	Headwaters in SW 1/4 of Sec. 7, T.32N., R.9E. to Boulder River Wilderness boundary.
	Rec.	4.0	Boulder River Wilderness boundary to confluence with N. F. Stillaguamish R.
S. F. Stillaguamish	Scenic	36.6	Headwaters between Morning Star and Lewis Peaks in NE 1/4 of Sec. 14, T.29N., R.10E. to Canyon Creek.
	Rec.	15.9	Canyon Creek to confluence with N. F. Stillaguamish River.
Canyon	Rec.	11.9	Confluence of N. and S. Forks Canyon Creek to confluence with S. F. Stillaguamish River.
S. F. Canyon	Wild	1.3	Headwaters in NE 1/4 of Sec. 5, T.30N., R.9E., to Boulder River Wilderness boundary.
	Scenic	7.1	Boulder River Wilderness boundary to confluence with N. F. Canyon Creek.
N. F. Skykomish	Wild	8.2	Headwaters in NW 1/4 of Sec. 30, T. 29N., R.10E. to end of F.S. Road 63 in NW 1/4 of Sec. 10, T.28N., R.12E.
	Scenic	8.4	Road end to Troublesome Creek
	Rec	12.0	Troublesome Creek to confluence with S. F. Skykomish River.
S. F. Skykomish (& mainstem)	Rec	48.6	Confluence of Tye and Foss Rivers to confluence with Snohomish River.
Troublesome	Wild	4.4	Headwaters at Blanca Lake to FS Road 63
	Scenic	0.1	FS Road 63 to confluence with N. F. Skykomish River.

West Cady	Wild	4.8	Headwaters in NE 1/4 of Sec. 13, T.28N., R.12E. to bridge in Sec. 21, T.28N., R.12E.
	Rec	2.7	Bridge to confluence with N. F. Skykomish River.
Tye	Rec	14.5	Headwaters in SE 1/4 of Sec. 14, T.26N., R.13E. to confluence with Foss River.
Miller	Scenic	3.7	Confluence of E. and W. Forks Miller River to confluence with S. F. Skykomish River.
W. F. Miller	Wild	2.1	Headwaters in SE 1/4 of Sec. 31, T.24 1/2 N., R.11E. to Alpine Lakes Wilderness boundary.
	Scenic	4.2	Alpine Lakes Wilderness boundary to confluence with E. F. Miller River.
E. F. Miller	Wild	0.8	Lake Dorothy to Alpine Lakes Wilderness boundary.
	Scenic	6.0	Alpine Lakes Wilderness boundary to confluence with W. Fk. Miller River.
Foss	Rec.	4.4	Confluence of E. and W. Forks Foss River to confluence with Tye River.
W. F. Foss	Wild	3.1	Delta Lake to Alpine Lakes Wilderness boundary.
	Rec	1.5	Alpine Lakes Wilderness boundary to confluence with E. F. Foss River.
E. F. Foss	Wild	6.7	Headwaters at Lynch Glacier in SW 1/4 of Sec. 11, T.24N., R.13E. to Alpine Lakes Wilderness boundary.
	Rec	1.2	Alpine Lakes Wilderness boundary to confluence with W. F. Foss River.
Beckler	Rec	13.5	Headwaters at Jack Pass in NW 1/4 of Sec. 31, T.28N., R.12E. to confluence with S. F. Skykomish River.
Rapid	Wild	7.0	Headwaters upstream from Janus Lake in SE 1/4 of Sec. 13, T.27N., R.13E. to Henry M. Jackson Wilderness boundary.
	Scenic	6.0	Henry M. Jackson Wilderness boundary to confluence with Beckler River.
Deception	Wild	9.8	Headwaters at Trico Lake in SW 1/4 of Sec. 5, T.24N., R.14E., to Alpine Lakes Wilderness boundary.

	Rec	0.5	Alpine Lakes Wilderness boundary to confluence with Tye River.
S. F. Tolt	Rec	5.4	Headwaters in SE 1/4 of Sec. 33, T.26N., R.10E. to Tolt Reservoir.
N. F. Snoqualmie	Wild	1.0	Headwaters at Lake Kanim in SE 1/4 of Sec. 11, T.25N., R.10E. to Alpine Lakes Wilderness boundary.
	Scenic	5.1	Alpine Lakes Wilderness boundary to Lennox Creek.
	Rec	8.0	Lennox Creek to Wagner Bridge in NE 1/4 of Sec. 20, T.25N., R.9E.
	Scenic	12.1	Wagner Bridge to confluence with M. F. Snoqualmie River.
Lennox	Wild	0.3	Headwaters in NW 1/4 of Sec. 36, T.25N., R.10E. to Alpine Lakes Wilderness boundary.
	Scenic	6.9	Alpine Lakes Wilderness boundary to confluence with N. F. Snoqualmie River.
M. F. Snoqualmie	Wild	6.4	Headwaters near Dutch Miller Gap in NW 1/4 of Sec. 29, T.24N., R.13E. to Alpine Lakes Wilderness boundary.
	Scenic	29.1	Alpine Lakes Wilderness boundary to near community of Tanner in NW 1/4 of Sec. 13, T.23N., R.8E.
	Rec	4.2	Near community of Tanner to confluence with N. F. and M. F. Snoqualmie River.
Taylor	Wild	6.6	Snoqualmie Lake to Quartz Creek Road.
	Scenic	1.6	Quartz Creek Road to confluence with M. F. Snoqualmie River.
Pratt	Wild	9.5	Headwaters at Melakwa Lake in NE 1/4 of Sec. 25, T.23N., R.10E. to confluence with M. F. Snoqualmie River.
S. F. Snoqualmie	Rec	30.6	Headwaters at Source Lake in NE 1/4 of Sec. 30, T.23N., R.11E., to confluence with Snoqualmie River.
Carbon	Wild	4.0	Headwaters at Carbon Glacier on NW slopes of Mt. Rainier to Ipsut Creek.
	Rec	28.4	Ipsut Creek to confluence with Puyallup River.

White	Scenic	20.0	Headwaters at Emmons Glacier on northeast slopes of Mt. Rainier to Huckleberry Creek.
	Rec	17.7	Huckleberry Creek to confluence with Clearwater River.
Clearwater	Wild	3.6	Headwaters in Clearwater Wilderness on Bearhead Mtn. in NW 1/4 of Sec. 28, T.18N., R.8E. to Clearwater Wilderness boundary.
	Rec	6.2	Clearwater Wilderness boundary to confluence with White River.
Greenwater	Wild	8.4	Headwaters in Norse Peak Wilderness on Castle Mtn. is SW 1/4 of Sec. 5, T.17N., R.11E. to Norse Peak Wilderness boundary.
	Rec	13.0	Norse Peak Wilderness boundary to confluence with White River.
TOTAL	47 Rivers	795.9 miles	

Suitability Determination

The last stage in studying potential Wild and Scenic Rivers is to evaluate eligible rivers and determine if the rivers are suitable. This step provides the basis for the decision to recommend designation or non-designation of the river. Factors used to determine suitability were:

1. The characteristics which do or do not make the area a worthy addition to the National System.

2. The current status of land ownership and use in the area, including the amount of private land involved and the uses on such land.

3. The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the Wild and Scenic Rivers System, and the values which could be foreclosed or diminished if the area is not protected as part of the system.

4. Public, State, and local government interest in designation of the river.

5. Other issues and concerns identified during the planning process.

If a river was found to be eligible, its suitability, including a recommendation for river classification (wild, scenic, and recreation), was considered in the analysis of alternatives in the environmental impact statement accompanying this forest plan.

Rational for the Inclusion of Rivers in Each Alternative:

Alternative A: Consistent with the current situation, this alternative includes 15 rivers listed in the 1982 National Park Service Nationwide Rivers Inventory on natural and free-flowing rivers. The only exception is Jim Creek, which was found not to be eligible.

Alternative B: The high timber goals of this alternative preclude recommending any eligible river segments within the National Forest boundary for wild and scenic designation.

Alternative C: Consistent with the goals of emphasizing primitive and semi-primitive recreation, scenery, and fish and wildlife habitat, in this alternative, all 47 rivers found to be eligible are recommended for designation as part of the National Wild and Scenic River system.

Alternative G: In keeping with the theme of maintaining natural ecosystems, this alternative recommends that all 47 rivers found to be eligible be recommended for designation as part of the National Wild and Scenic River system.

Alternative H: This alternative carries forward the five rivers found eligible and suitable at the Draft stage of this planning effort.

Alternative I: The designation of Wild and Scenic Rivers is not consistent with the goals and objectives of this alternative.

Alternative J: The Preferred Alternative includes the 30 rivers that were determined to be suitable, and that met the goals and objectives of this alternative. This decision was based on the criteria listed on page E-13.

The next pages include the list of suitable rivers, by alternative.

Suitable Rivers, by Alternative

Alternative NC

No Rivers Recommended

Alternative A

North Fork Nooksack
Wells Creek
Middle Fork Nooksack
South Fork Nooksack
North Fork Stillaguamish
Boulder River
South Fork Stillaguamish
Canyon Creek
North Fork Skykomish
South Fork Skykomish
Tye
Beckler
Miller River (to fork)
Foss River (to fork)
Middle Fork Snoqualmie

Alternative B

No Rivers Recommended

Alternative C

Silesia Creek
North Fork Nooksack
Wells Creek
Middle Fork Nooksack
South Fork Nooksack
Bell Creek
Baker River
Noisy Creek
Diobsud Creek
Illabot Creek
Buck Creek
Downey Creek
Whitechuck River
North Fork Sauk River (Extension)
South Fork Sauk River (Extension)
North Fork Stillaguamish
North Branch
Deer Creek
Boulder River
South Fork Stillaguamish
Canyon Creek (to fork)
South Fork Canyon Creek
Skykomish River including South Fork Skykomish
North Fork Skykomish
Troublesome Creek
West Cady Creek
Tye River
Miller River (to fork)
West Fork Miller River
East Fork Miller River
Foss River (to fork)
West Fork Foss River
East Fork Foss River
Beckler River
Rapid River
Deception Creek
South Fork Tolt River
North Fork Snoqualmie River
Lennox Creek
Middle Fork Snoqualmie
Taylor River
Pratt River
South Fork Snoqualmie River
Carbon River
White River
Clearwater River
Greenwater River

Alternative G

- Silesia Creek
- North Fork Nooksack
- Wells Creek
- Middle Fork Nooksack
- South Fork Nooksack
- Bell Creek
- Bar Creek
- Baker River
- Noisy Creek
- Diobsud Creek
- Illabot Creek
- South Fork Cascade River
- Buck Creek
- Downey Creek
- Suiattle River (Extension)
- Whitechuck River
- North Fork Sauk River (Extension)
- South Fork Sauk River (Extension)
- North Fork Stillaguamish
- North Branch
- Boulder River
- South Fork Canyon Creek
- Skykomish River including South Fork Skykomish
- West Cady Creek
- Tye River
- Miller River (to fork)
- West Fork Miller River
- East Fork Miller River
- Foss River (to fork)
- West Fork Foss River
- East Fork Foss River
- Beckler River
- Rapid River
- Deception Creek
- South Fork Tolt River
- North Fork Snoqualmie River
- Lennox Creek
- Middle Fork Snoqualmie
- Taylor River
- Pratt River
- South Fork Snoqualmie River
- Carbon River
- White River
- Clearwater River
- Greenwater River
- Deer Creek
- South Fork Stillaguamish
- Canyon Creek (to Fork)
- North Fork Skykomish
- Troublesome Creek

Alternative H

- North Fork Nooksack
- North Fork Skykomish
- South Fork Skykomish
- Tye River
- Middle Fork Snoqualmie

Alternative I

No Rivers Recommended

Alternative J (Preferred)

- North Fork Nooksack
- South Fork Nooksack
- Bell Creek
- Baker River
- Noisy Creek
- Diobsud Creek
- Illabot Creek
- Buck Creek
- Downey Creek
- Whitechuck River
- North Fork Sauk River (Extens.)
- Boulder River
- South Fork Stillaguamish
- Skykomish River including South Fork Skykomish
- North Fork Skykomish
- Troublesome Creek
- West Cady Creek
- Tye River
- Miller River (to Fork)
- West Fork Miller River
- East Fork Miller River
- Foss River (to fork)
- West Fork Foss River
- East Fork Foss River
- Deception Creek
- North Fork Snoqualmie River
- Middle Fork Snoqualmie River
- Taylor River
- Pratt River
- White River

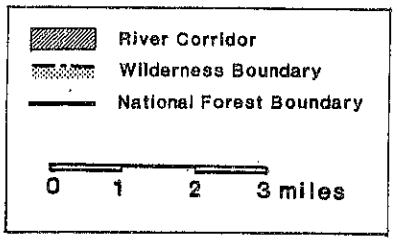
Wild and Scenic River Narratives

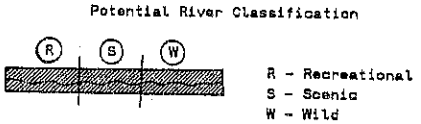
The remainder of this appendix includes the narrative assessment for the 47 rivers found to be eligible; a map and description including land use and resource values is included for each river. Also included, is the recommended river classification for the preferred alternative.

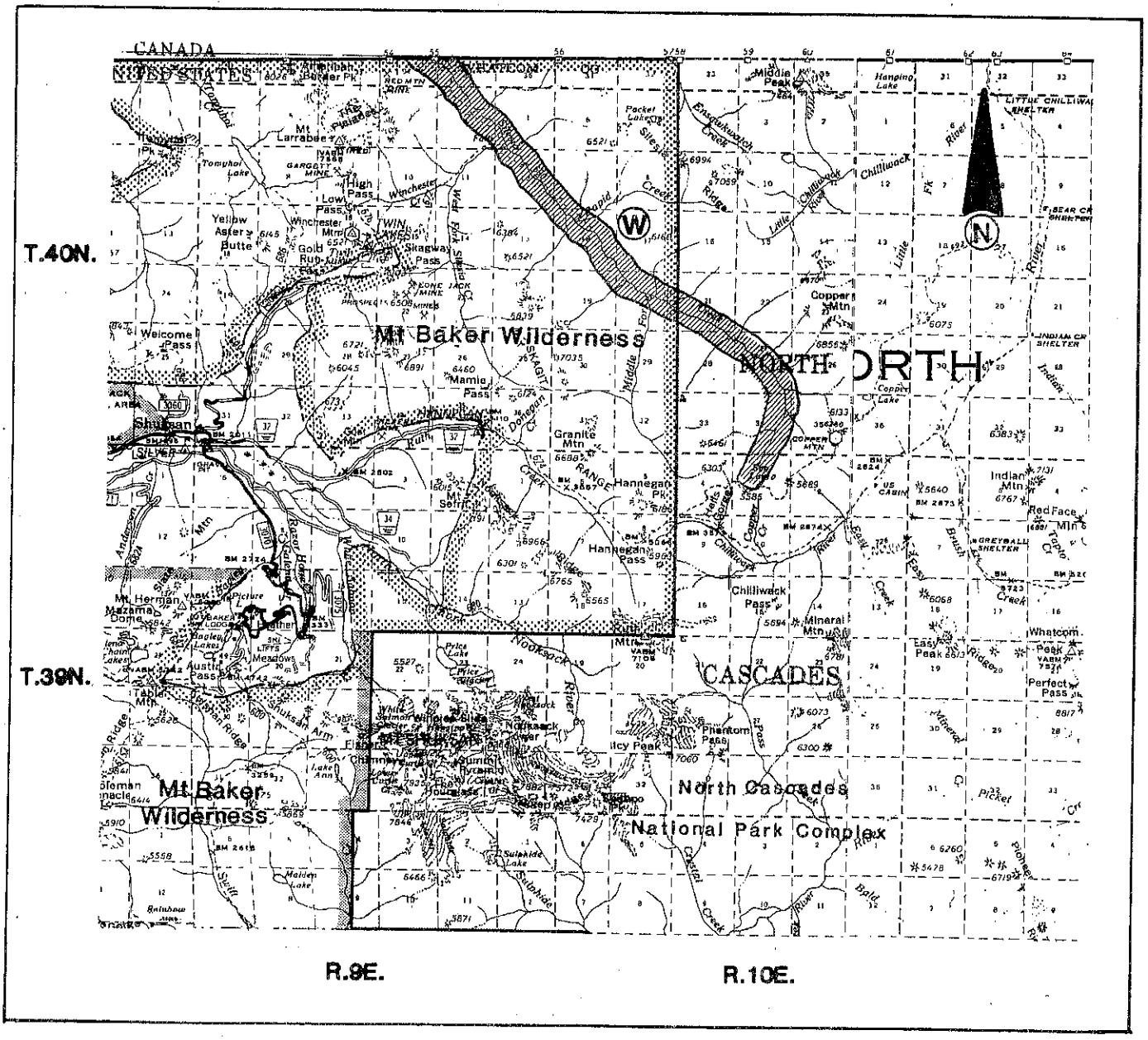
Note: For all river segments, the following list shows where more detailed information may be found:

Subject	Planning Document	Chapter/ Appendix
Affected Environment	FEIS	III
Direct Effects of Allocation	Summary	---
	FEIS	IV
	Appendix	E
Cumulative Effects on each Alternative on W&SR	FEIS	IV
Indirect Effects on Other Resources	FEIS	IV
Mitigation Measures	FEIS	IV
Management Area Descriptions	FEIS	II
	Plan	4
Recommended Classification	Plan	4
	Appendix	E
Monitoring Plan	Plan	5
Description of River and Attributes	Appendix	E
Eligibility Determination	Appendix	E
Preliminary Suitability	Appendix	E

Silesia Creek







SILESIA CREEK

Whatcom County — North Cascades National Park

Silesia Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters at Egg Lake, located in the North Cascades National Park in the NW 1/4 of Sec. 3, T.39 N., R.10 E. northward through the Mt. Baker Wilderness to the Canadian border. The entire length of the Creek is located either in the Mt. Baker Wilderness or North Cascades National Park.

Segment 1 - Headwaters in North Cascades National Park in NW 1/4 of Sec. 3, T.39 N., R.10 E. to the Canadian border (10.4 miles).

RIVER MILEAGE:

Study:	10.4 miles
Eligible:	10.4 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

Note: This recommendation is pending evaluation by the National Park Service.

OUTSTANDINGLY REMARKABLE VALUES: Silesia Creek was found to possess "Outstandingly Remarkable" values for the following: wildlife.

The creek contains a large summer range for deer and bear as well as habitat for cougar, bobcats and mountain goats. A SOHA is also located in the drainage, with two nesting pairs of owls.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	10.4	None recommended	0.0

SUITABILITY DETERMINATION:

Silesia Creek was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to lack of public and other agency support and few outstandingly remarkable values. The remarkable value present for this river was wildlife, specifically a SOHA, which is already well protected by wilderness. River designation would not improve protection.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
NPS, North Cascades National Park	4.0 miles	1,280 acres
Mt. Baker-Snoqualmie National Forest	6.4 miles	2,048 acres
(Mt. Baker Wilderness-6.4 miles)		
Total	10.4 miles	3,328 acres 1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: A large portion of this river segment has been identified by the BLM as an "area of critical mineral potential". According to the Bureau of Mines MILS data, two past-producing gold mines are located in Sec. 34, T.41 N., R.9 E. and in Sec. 3, T.40 N., R.9 E. (the Boundary Red Mountain and Gold Basin Mines, respectively). Based upon the available information, it appears that these mines lie outside the subject river boundary. However, any extension of mineralization could lie within the river corridor.

In addition to these two reported occurrences, the literature references the Silesia Placers (Sec. 2, T.40 N., R.9 E.). However, they have no reported production or development of any significance (Garrett, Jr., C.R., 1968). According to M.H. Staatz and others (1972), some sampling has been done in the area, but the sampling did not prove to be positive. BLM mining claim recordation data (1/19/89) indicates that at least 53 mining claims have been located in the vicinity of this river segment. Of the 53 claims, only 20 are considered to have not been abandoned or have not been declared to be null and void. Those 20 claims lie within Sec. 34, T.41 N., R.9 E. It is not known which, if any, lie within the river corridor.

The northern 6 to 7 miles are classified by the BLM as being prospectively valuable for geothermal resources. None of the area is considered to be prospectively valuable for other leasable mineral commodities. None of the area is encumbered by mineral leases or pending lease applications.

Based upon the available information, it appears that the northern portion of the area does have at least a low potential for the occurrence of precious and base-metal mineral resources and a potential for the occurrence of geothermal resources. However, it also appears that the area contains no known mineral resource of more than nominal value, and no serious interest in developing mineral resources in the river corridor has been recently expressed.

WATER RESOURCE DEVELOPMENT: A small hydroelectric dam near the Canadian border was used to power a mill for Boundary Red Mountain Mine. This dam has not been in use since the early 1900's. It is barely noticeable today and does not impede the free flowing character of the river. The Northwest Power Planning Council classified the Silesia River as "Protected" from hydropower development.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are no existing or planned roads, bridges, homes, farms or campgrounds along Silesia Creek.

Silesia Creek Trail #672 runs up and down the stream from the confluence of the West and Main forks. The downstream trail follows Silesia Creek to the Canadian border, but is difficult to find in places due to low use. The upstream trail ends at an old fire camp near Rapid Creek.

RECREATION ACTIVITIES: Dispersed recreation use of Silesia Creek is low due to limited access.

Recreation Activities (in RVD's, for National Forest system lands only):

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	25	40
Camping	110	170
Viewing (scenery, wildlife, driving for pleasure)	15	25
Misc. (hike, picnic)	25	50
TOTAL	175	285

WILDLIFE AND FISHERIES: Silesia Creek contains habitat for various wildlife species including cougar, bobcats, black-tailed deer, mountain goat and bear. A SOHA is located in the drainage with two nesting pairs of owls.

Silesia Creek contains populations of native rainbow trout and dolly varden. The creek flows into the Chilliwack River, a tributary to Canada's Fraser River. The Chilliwack is an important anadromous fishery.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Silesia Creek has a moderate stream gradient in its lower reaches. There are numerous small falls and rapids along its length. Small glaciers are found on Copper Mountain, located near the headwaters.

Water quality is excellent.

GEOLOGY: Silesia Creek passes through the steep and very rugged granitic mountains of the North Cascades. Continental and alpine valley glaciation has carved out a U-shaped valley and oversteepened the valley sidewalls. Lower sideslopes, dominated by stringers of conifers and brushy avalanche tracks, merge into massive, barren upper slopes where patches of snow often last through summer. Numerous side tributaries abound with waterfalls during spring runoff.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Silesia Creek and no prehistoric sites have been recorded. The lack of sites may be a result of the lack of survey of the drainage. During the historic period, the area was within the territory of the Nooksack Indians. No localities used for traditional religious practices are known within the potential wild and scenic river corridor.

During the historic period, the main use of the drainage was for trail access to adjacent areas. A historic mining trail followed the drainage for a short distance before turning east at the West Fork. In the early 1950's, Forest Service crews constructed a trail shelter on the West Fork, just upstream from its confluence with the main branch of Silesia Creek. The shelter is still present, but it has been determined ineligible for the National Register of Historic Places.

TIMBER: No timber harvesting activities have occurred along the United States side of Silesia Creek. However, extensive logging has taken place on the Canadian side of the border. The entire length of this segment is in the Mt. Baker Wilderness, thus it is not available for logging.

SOCIO-ECONOMIC EFFECTS: Silesia Creek can be accessed only by trail. The nearest community is Glacier, 33 miles away. This community, traditionally supported by logging and timber products, has been economically changed by an influx of retirees and Canadian vacation homeowners, as well as an increasing number of visitors to this scenic and recreation area.

CURRENT ADMINISTRATION: From its headwaters to the boundary of the Mt. Baker Wilderness, approximately 4 miles of Silesia Creek flow through North Cascades National Park Service Complex Wilderness administered by the National Park Service. The remaining 6.4 miles flow through the Mt. Baker Wilderness area before the river crosses the border into Canada. The wilderness is administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Silesia Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 500	
Costs of Implementation		$ 200
Development of Management Plan		3,900
Development Costs	72,000	
Operation and Maintenance Costs	1,000	
TOTAL - First Five Years	**$73,500**	**$4,100**

General administration and operation and maintenance costs are estimated to continue at $300 annually.

NORTH FORK NOOKSACK RIVER

Whatcom County — North Cascades National Park

The North Fork Nooksack River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The North Fork Nooksack River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From its headwaters in the East Nooksack Glacier on Mt. Shuksan to the confluence with the South Fork of the Nooksack River.

Segment 1 - Headwaters in the North Cascades National Park in SW 1/4 of Sec. 30, T.39 N., R.10 E. to the Mt. Baker Wilderness boundary in SW 1/4 of Sec. 14, T.39 N., R.9 E. (3.5 miles).

Segment 2 - Mt. Baker Wilderness boundary to Nooksack Falls diversion dam (9.9 miles).

Segment 3 - Nooksack Falls diversion dam to Nooksack Falls power plant (1.6 miles).

Segment 4 - Nooksack Falls power plant to the fish hatchery near Kendall, Washington (18.8 miles).

Segment 5 - Fish hatchery to the confluence with the South Fork Nooksack River (9.5 miles).

RIVER MILEAGE:

Study:	43.3 miles
Eligible:	43.3 miles
Forest Plan:	43.3 miles recommended for designation in preferred alternative

Note: This recommendation is pending evaluation by the National Park Service portion of the river.

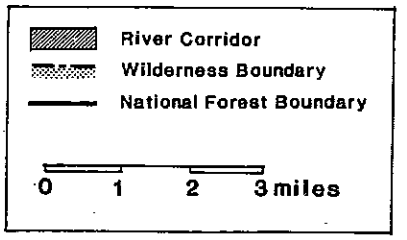
OUTSTANDINGLY REMARKABLE VALUES: The North Fork Nooksack River was found to possess "Outstandingly Remarkable" values for the following: scenic, recreation, fisheries, wildlife, and historical/cultural.

Scenic views of Mt. Shuksan and Mt. Baker can be viewed along the river. There are rapids near the confluence with Wells Creek and the 100-foot high Nooksack Falls.

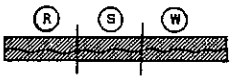
The river sustains substantial boating use with a significant potential for increased use. Glacier run-off allows boating from early spring to August.

The river provides habitat for a number of anadromous fish species, including an important spring chinook salmon run.

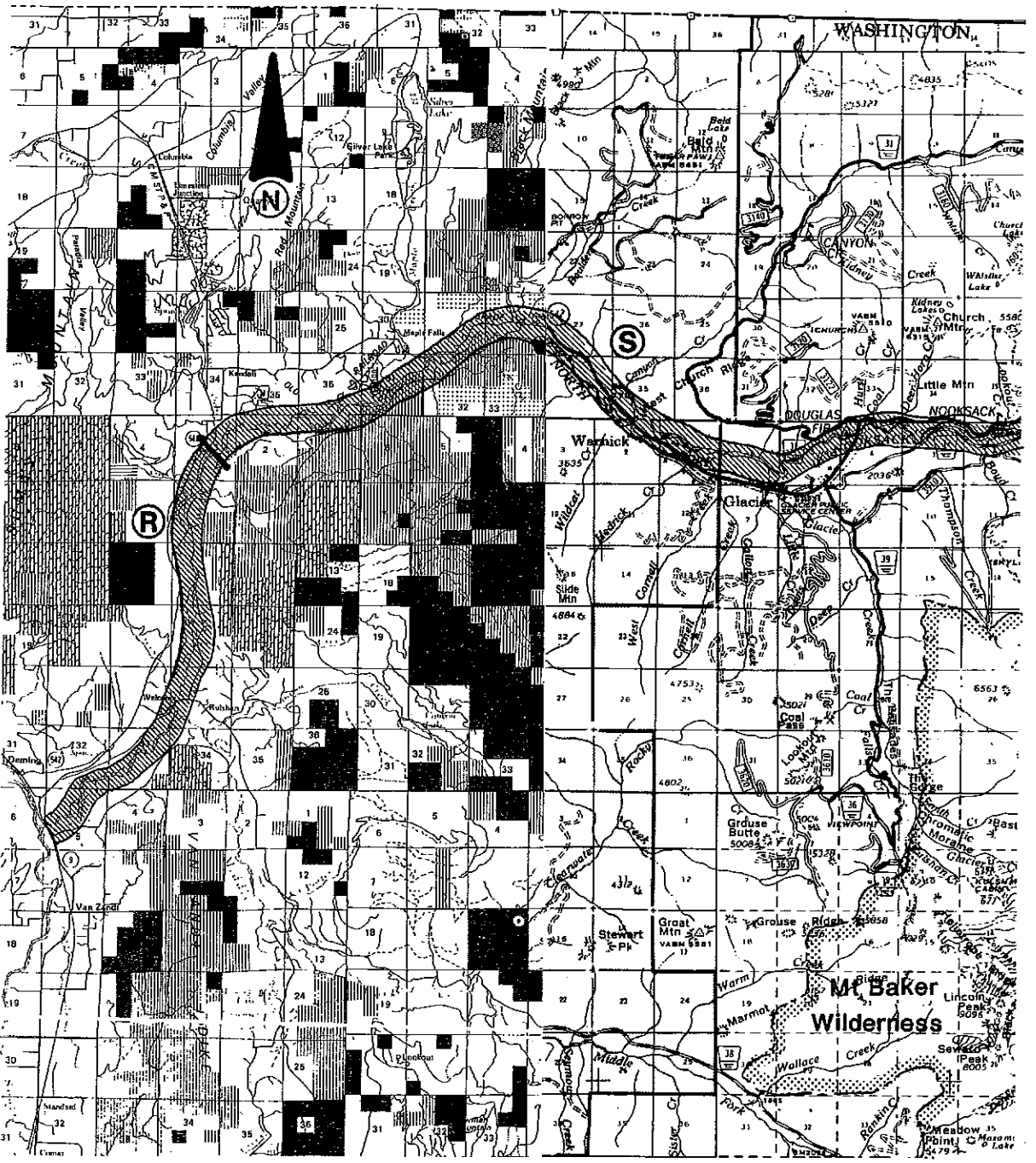
North Fork Nooksack River
(1)



Potential River Classification



R - Recreational
S - Scenic
W - Wild



Mountain goats, trumpeter and tundra swans, spotted owls, black-tailed deer and the federally listed Threatened and Endangered bald eagle all inhabit the North Fork drainage.

The early logging history in the North Fork Nooksack Watershed can be interpreted at many sites. A miner's cabin is listed on the National Register of historic places. Likewise, the Nooksack Falls hydroelectric plant is listed on the Register. It is the second oldest and smallest plant in Washington.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	3.5	Wild	3.5
Segment 2	Scenic	9.9	Scenic	9.9
Segment 3	Recreation	1.6	Recreation	1.6
Segment 4	Scenic	18.8	Scenic	18.8
Segment 5	Recreation	9.5	Recreation	9.5

SUITABILITY DETERMINATION:

The North Fork of the Nooksack River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the high number of outstandingly remarkable values, public support for designation, and interest of other public agencies. The North Fork of the Nooksack was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982. More recently, in 1988, the Washington State Scenic River Assessment included the North Fork as a river "possessing the natural, cultural, and recreational values that would make it a suitable addition to the Washington State Scenic Rivers System".

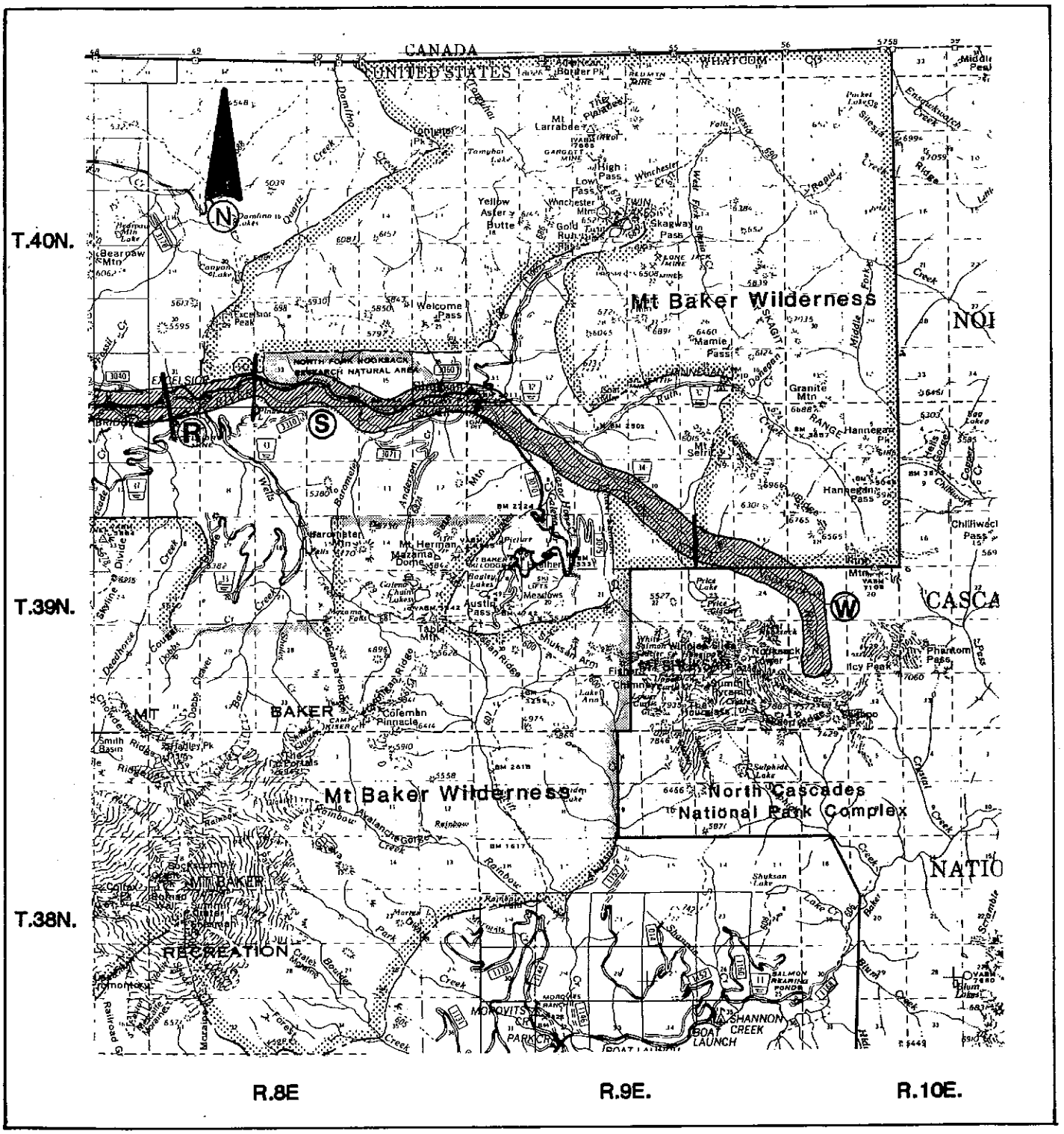
LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
NPS, North Cascades National Park	2.2 miles	704 acres
Mt. Baker-Snoqualmie National Forest	1.3 miles	416 acres
(Mt. Baker Wilderness-1.3 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	9.9 miles	3,168 acres
Segment 3		
Nooksack Power Plant (Private)	1.6 miles	512 acres
Segment 4		
Mt. Baker-Snoqualmie National Forest	8.0 miles	2,560 acres
Private	7.4 miles	2,368 acres
State	3.4 miles	1,088 acres
Segment 5		
Private	9.5 miles	3,040 acres
Total	43.3 miles	13,856 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

North Fork Nooksack River

(2)



MINERAL AND ENERGY RESOURCE ACTIVITIES: Even though the subject area has no reported mineral resource production of significance, a small portion of Segment 2, near Price Lake, has been identified by the BLM as an "area of critical mineral potential". The Bureau of Mines MILS data and Moen (1969) indicate a number of reported mineral resource occurrences within or immediately adjacent to the river corridor. Of these occurrence the following appear to be of most interest:

The Great Excelsior (T.39 N., R.8 E., Sections 5 and 6): major exploration is on-going to determine if mineralization extends north and south of the presently identified ore body, which is reported to contain 5.9 million tons grading 0.033 ounces of gold and 2.047 ounces of silver per ton.

The Glacier Mine (T.39 N., R.7 E., Sections 4, 5, 8, 9): It is reported to have potential for the occurrence of copper, but to date no ore deposits worthy of development have been identified.

The First Chance Mine (T.40 N., R.8 E., Section 31): It is reported to contain mineralized rock carrying up to 0.75 ounces of gold per ton, however, an economically viable deposit has not been identified.

The Tooker Mine (T.40 N., R.8 E., Section 31): It is reported to contain disseminated pyrite and marcasite in altered Mesozoic volcanic and sedimentary rocks, which carries as much as 2.9 ounces of silver and 0.103 ounces of gold per ton.

Other prospected occurrences of copper, silver, gold, lead, zinc and stone are reported for T.40 N., R.8 E., Section 32 and 33, T.39 N., R.9 E., Section 6, T.40 N., R.8 E., Section 33. None of these are reported to be mineral deposits of significance.

BLM mining claim data indicates 292 mining claims have been located within or adjacent to the river lying between T.39 N., R.7 E. Section 5 and T.40 N., R.8 E., Section 34. Of these claims, 161 have not been abandoned or declared to be null and void. It is not known which of these, if any, actually lie within the river corridor.

The western 20 to 24 miles have been classified as being prospectively valuable for oil and gas with the eastern 33 miles classified prospectively valuable for geothermal resources. An area from one mile east of the town of Glacier westward has been classified prospectively valuable for coal resources. None of the area has reported occurrences of such commodities.

Based upon the available information, it appears that the section of the river lying near Sections 4, 5 and 6, T.39 N., R.8 E. and Sections 31, 32 and 33, T.40 N., R.8 E. has at least a moderate potential for the occurrence of locatable mineral resources. Also a portion of the river lying outside the previously described lands but between Section 5, T.39 N., R.7 E. and Section 34, T.40 N., R.8 E. has at least a low potential for the occurrence of locatable mineral resources. Numerous unpatented mining claims have been located and maintained along that portion of the river corridor, which does indicate a continuing interest in the area. Most of the interest appears to be concentrated on the Excelsior mine area. The area also has potential for the occurrence of oil and gas, coal and geothermal resources. However, the pre-existing lease applications have been withdrawn and no serious interest in the leasable minerals of the area is currently being expressed.

WATER RESOURCE DEVELOPMENT: A diversion dam exists at Nooksack Falls in conjunction with the Nooksack Falls Hydroelectric Project facility. There are plans to rebuild or enlarge this facility. All facilities of this project with the exception of existing transmission lines are located on private land. A license application has been submitted.

Hydroelectric projects have been proposed for a number of tributaries to the North Fork Nooksack. Licenses for projects on Ruth and Swamp Creek were issued by the Federal Energy Regulatory Commission in 1986. License applications have been submitted for projects on Wells Creek, Boulder Creek, and Canyon Creek. License applications have also been submitted for projects on Deadhorse Creek, Bagley Creek and Glacier Creek, and the Forest Service has recommended licensing of these projects. Fossil Creek, Gallop Creek, Cornell Creek, West Cornell Creek, Thompson Creek, Cascade Creek and Barometer Creek all have preliminary permits issued. A summary is listed below:

Tributary	Proposed Facilities Within Corridor	Megawatts
Fossil Creek	Transmission lines	1.5
Deadhorse Creek	Transmission lines	7.9
Wells Creek	Transmission lines, powerhouse	15.3
Boulder Creek	Transmission lines	4.0
Canyon Creek	Transmission lines	12.2
Gallop Creek	Transmission lines	5.4
Cornell Creek	Transmission lines	5.4
W. Cornell Creek	Transmission lines	5.4
Thompson Creek	Transmission lines	3.6
Cascade Creek	Transmission lines	1.0
Nooksack Falls 1/	Transmission lines, powerhouse, diversion structure, penstock	8.0
Barometer Creek	Transmission lines	1.0
Bagley Creek	Transmission lines, powerhouse	1.5
Swamp Creek	Transmission lines	3.5
Ruth Creek	Transmission lines	2.8
Glacier Creek	Transmission lines	5.0

1/ Nooksack Falls project is on the main Nooksack River, not a tributary.

Nineteen miles of river are in power site classification.

The Nooksack River is listed by the Washington State Department of Ecology as a "River of Statewide Significance" based on its water volume. The river is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Mt. Baker Highway (State 542) parallels the river on the north side from Shuksan to Douglas Fir Campground. At Douglas Fir Campground it crosses the river and continues on the south side of the river to Warnick. At Warnick, the highway crosses the river again and continues on the north side of the river to its confluence with the South Fork Nooksack.

The North Fork Road (F.S. Rd. #37) parallels the south side of the river from Nooksack Falls to the point that it meets the Mt. Baker Highway (just south of Douglas Fir Campground).

Bridges cross the river at: The Mt. Baker Highway crosses at Nooksack Falls, upstream from Silver Fir Campground, and at Warnick. F.S. Rd. #3070 crosses upstream of Silver Fir Campground, F.S. Rd. #33 crosses at Douglas Fir Campground, and two logging roads cross upstream of Ruth Creek.

Five developed campgrounds are located along the river within the Forest boundary: Douglas-fir (30 sites), Nooksack (18 sites), Excelsior (a reservation-only group site), Silver Fir (21 sites) and Hannegan (6 sites). There are 3 campgrounds outside the Forest.

An old railroad grade parallels the river from Glacier to Kendall. It was used by Chicago, Milwaukee, St. Paul and Pacific Railways.

The Excelsior Pass Trailhead #670 is located on Mt. Baker Highway near Nooksack Falls. Goat Mountain Trailhead #673 is on Forest Road 32, 5 miles west of Hannegan Campground. Horseshoe Bend Interpretive Trail is located across from Douglas-fir Campground.

A trail is proposed to run from Maple Falls to Glacier.

There is river access at Glacier, west of Maple Falls and below Nooksack Fish Hatchery.

The towns of Glacier, Kendall and Maple Falls are situated along the river. Farms and home sites are common downstream from the Forest boundary at Glacier. Increased recreation home developments are occurring along some stretches of the river.

The Nooksack Fish Hatchery is located at Kendall Creek. Kendall Cemetery is located 1/16 mile from the river corridor, 1/4 mile below the fish hatchery.

Up Deadhorse Creek, there is an off-channel rearing pond for Chinook.

Planned fishery projects along the river include an acclimation pond on Deadhorse Creek, a hatchery project in Rutsatz Slough and a rearing and spawning channel 1 mile from Rutsatz Road.

Above the confluence with Canyon Creek, there is a solid waste transfer site.

There are 500 yards of riprap near the intersection of Highway 542 and Forest Road 3070; 1000 yards along the river adjacent to the Silver Fir Campground; 2000 yards along the Mt. Baker Highway near Maple Falls and Bell Creek; and 2000 yards near the Highway 9 bridge crossing.

A powerline crosses the river .7 miles upstream from the confluence with the Nooksack River.

There are 2 sand and gravel quarries located within the river basin. In Sections 9 and 10, T.39 N., R.5 E. there is an active, 1 person operation. In Section 28, T.39 N., R.5 E., there is an inactive quarry.

The Puget Power Intake is located above Nooksack Falls.

There is a limited amount of prime agricultural farmland along the river. Most farmland is used for pasturing cattle and farm animals.

RECREATION ACTIVITIES: The North Fork Nooksack is a popular river for fishing enthusiasts and has a high potential for other boating use. Downstream from Nooksack Falls, fishing use is moderate to high. Rafting use, while presently low, has significant growth potential. Glacial run-off allows rafting into August, when other area rivers are already too low. From Nooksack Falls to the Douglas-fir Campground, canoeing and kayaking use is light. Boating use increases downstream from the campground, mainly by Canadian visitors. The river is viewed as above average to outstanding by kayak clubs due to its challenge and hydraulics. From time to time, there are commercial guided canoe and kayak trips.

The most popular attraction in the area is Mt. Baker. In the winter, the ski area draws skiers to the mountain. In summer, the Heather Meadows area at the base of the mountain, and numerous hiking, camping and picnicking opportunities attract visitors. Mt. Baker Highway is a designated Scenic Byway. Sightseeing by car is a very popular recreation activity.

Off-road recreation vehicle use is heavy on logging roads.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	500	825
Waterplay (swim, wade)	200	300
Fishing, Hunting	2,500	3,600
Camping	20,900	31,350
Viewing (scenery, wildlife, driving for pleasure)	1,500	2,280
Misc. (hike, picnic, berry picking, etc.)	3,000	5,880
TOTAL	28,600	44,235

WILDLIFE AND FISHERIES: Bald eagles, a federally listed Threatened and Endangered species, utilize the lower 3 to 5 miles of the river. A SOHA is located within the North Fork Nooksack Research Natural Area. The river corridor supports an extensive winter range for the black-tailed deer. Mountain goats can be seen from the upper reaches of the river, particularly in the Goat Mountain and Mt. Sefrit areas. Trumpeter and tundra swans are seen along the upper river during winter.

Spring chinook, coho, pink and chum salmon along with winter steelhead swim up river to the Excelsior Powerhouse, located below Nooksack Falls. The falls act as a total block to upstream migration. The spring chinook are native to the area and represent one of the better spawning runs in Puget Sound. Most chinook spawning occurs in the North Fork, with juvenile populations rearing in all accessible waters. Coho and some spring chinook have year round habitation. Pink and coho salmon use numerous North Fork tributaries.

Deadhorse Creek has a large population of pink salmon. The Nooksack Salmon Hatchery, located on Kendall Creek, produces coho, fall chinook, spring chinook and chum salmon. Resident cutthroat, rainbow trout and eastern brook trout are found in the upper reaches of the river.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: From its headwaters along its first six miles, the North Fork Nooksack River descends over very steep gradients with numerous cascades and falls. In the next five miles, the valley floor broadens, allowing moderate stream gradients with good pool-riffle balance. Below Nooksack Falls, the canyon narrows to form deeply incised cascades and rapids. Below Glacier Creek, the stream channel is unstable, which contributes to braiding of the stream.

From the headwaters to the confluence with the Middle Fork, the North Fork Nooksack drains a 293 square mile area with an annual runoff at more than 1,000,000 acre-feet. Streamflows reach a maximum in mid-June with up to 5000 cubic feet per second (cfs) at Deming stream. Another peak occurs in mid-December with 4400 cfs. The low flows occur in late August at a little less than 2000 cfs and in mid-winter when tributaries are frozen and precipitation falls as snow. There are over 100 tributaries that contribute to the river's volume, with one-third of the total volume originating from Wells, Glacier and Canyon Creeks.

A distinguishing feature of this river is the glacial runoff 6 to 8 months of the year. The glacial melt discolors the water. Four major glaciers, plus numerous smaller glaciers and perennial snow fields at the headwaters, help feed the river.

GEOLOGY: The upper Nooksack River area consists of ancient, uplifted and deeply dissected erosion surfaces cut into a complex series of granitic metamorphic rocks. The surfaces are overlain by early tertiary sandstones, shales and coal. The North Fork flows through a valley which was initially stream-cut and later modified by glaciation. Steep sideslopes rise to over 7,000 feet elevation. The Nooksack Falls area at the confluence of Wells Creek is a steep, narrow canyon.

Below Glacier Creek, the valley broadens then alternately narrows and widens for eight miles. The valley floors are underlain by a fill several hundred feet thick of glacial and stream sediments.

CULTURAL RESOURCES: No systematic archeological survey has been made of the North Fork Nooksack River. Existing information comes from surveys made in conjunction with individual federal projects and published historical sources. No prehistoric sites have been recorded within the potential wild and scenic river corridor. The lack of sites is believed to reflect survey patterns rather than lack of use. During the historic period, the area was within the territory of the Nooksack Indians. Locations used by the Nooksacks to practice their traditional religion exist within the river corridor.

During the late nineteenth and early twentieth centuries, thousands of mining claims were located in the North Fork watershed. Only the Lone Jack and Red Mountain lodes produced substantial amounts of ore, and neither is within the river corridor. Further upriver, one of the early miners' cabins is still standing and is listed on the National Register of Historic Places.

Logging began in the upper Nooksack drainage during the first decade of the twentieth century, but did not make a significant impact on the valley above Glacier until about 1940. Logging and mining led to construction of a railroad to Glacier by 1910. In turn, the railroad facilitated construction of the Nooksack Falls hydroelectric project, the second oldest and smallest hydroelectric plant in Washington. The plant has been listed on the National Register of Historic Places.

Citizens of Bellingham were also promoting Mt. Baker as a recreation area during the early years of this century. Their efforts resulted in the extension of the road from Excelsior (Nooksack Falls) to Heather Meadows in 1921. Subsequent recreation developments, such as the Mt. Baker Lodge, occurred largely outside of the North Fork corridor, but the popularity of Mt. Baker did increase recreation use of the river below Excelsior.

The level of twentieth-century activity in the drainage necessitated an administrative presence on the part of the Forest Service, represented by the Glacier Ranger Station. The Station office is listed on the National Register of Historic Places as an unusually fine example of Civilian Conservation Corps construction.

TIMBER: Sideslopes away from the river have been logged extensively. To the west of the Forest boundary over 118,024 acres have been impacted by timber harvesting activities. Recent logging has concentrated in Ruth, Swamp and Razor Hone Creeks.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
183.5	2.946	2.870

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: None within the Forest boundary. Limited grazing on private land.

SOCIO-ECONOMIC EFFECTS: State Highway 542 runs along the North Fork of the Nooksack River, through the communities of Deming, Kendall, Maple Falls, and Glacier. These communities, historically supported by the timber industry, have been impacted by the creation of the North Cascades National Park, the Mt. Baker Wilderness, Mt. Baker ski facilities, and the recreation pursuits of the metropolitan populations of Bellingham and Vancouver, B.C. Canadians come in increasing numbers to the area acquiring vacation homes in the mountainous communities and using the recreation resources of the area. Between 1968 and 1975, over 5,000 home sites, trailer lots and condominiums were platted or constructed.

The great diversity of recreation opportunities include alpine skiing, hunting, fishing, hiking, camping, climbing and sightseeing.

Significant capital investments are planned for the Forest Service Glacier Public Service Center and Heather Meadows. River designation would add to the diversity of activities in the drainage and is expected to make it more economically viable for businesses catering to the recreation public.

The fisheries resource is considered significant on the North Fork Nooksack River. The Nooksack salmon hatchery located 5 miles downstream of the town of Maple Falls helps maintain this important anadromous fishery.

CURRENT ADMINISTRATION: From the headwaters downstream 3.5 miles, the river flows within North Cascades National Park Service Complex Wilderness, administered by the National Park Service. From the park boundary downstream to the Forest boundary, the river corridor flows through the Mt. Baker Wilderness and thence through other National Forest lands administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, most of the shoreline of the North Fork Nooksack River has been classified as Conservancy by Whatcom County. The exception is a 1.5 mile section below Maple Creek, which is classified Natural. These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Natural designation denotes areas characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relatively intolerant of intensive human use.

Lands along the North Fork Nooksack, outside of federal jurisdiction, are mostly zoned for Forestry Use by Whatcom County. There are several developed areas along the river that are zoned for Rural Use, with 1 dwelling per 5 or 10 acre tracts.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the North Fork Nooksack River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 5,000	$ 50,000
Costs of Implementation		15,000
Development of Management Plan		78,600
Development Costs	600,000	50,000
Operation and Maintenance Costs	360,000	5,000
TOTAL - First Five Years	**$965,000**	**$198,600**

General administration and operation and maintenance costs are estimated to continue at $84,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Trailled	296
		Wilderness-General Trailless	317
		Wilderness-Special	21
Segment 2	Scenic	Semi-Primitive, Non-Motorized Recreation	126
		Scenic Corridor (Foreground)	1,097
		Scenic Corridor (Middleground)	588
		Old Growth Habitat (spotted owl)	845
		Research Natural Area	422
		Developed Recreation	42
Segment 3	Rec	Old Growth Habitat (spotted owl)	21
		Scenic Corridor (Foreground)	357
		Scenic Corridor (Middleground)	147
Segment 4	Scenic	Scenic Corridor (Foreground)	1617
		Scenic Corridor (Middleground)	252
		Developed Recreation	84
		Goat Habitat	21
		T & E Species	105

WELLS CREEK

Whatcom County

Wells Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

Wells Creek was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From its headwaters near Table Mountain on Ptarmigan Ridge to its confluence with the North Fork Nooksack River.

Segment 1 - Headwaters at Galena Chain Lakes to the Road 33 bridge, east edge of Sec. 16, T.39 N., R.8 E. (2.6 miles).

Segment 2 - Road 33 bridge to the confluence with North Fork Nooksack River (3.4 miles).

RIVER MILEAGE:

Study:	6.0 miles
Eligible:	6.0 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Wells Creek was found to possess "Outstandingly Remarkable" values for the following: wildlife.

Mountain goat winter range and a SOHA are located within the drainage.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	2.6	Not recommended	0.0
Segment 2	Scenic	3.4	Not recommended	0.0

SUITABILITY DETERMINATION:

Wells Creek was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to low recreation use, lack of anadromous fisheries, and high competing resource values. The remarkable value for this creek was wildlife, specifically a SOHA, located off of the river and already adequately protected.

Wells Creek

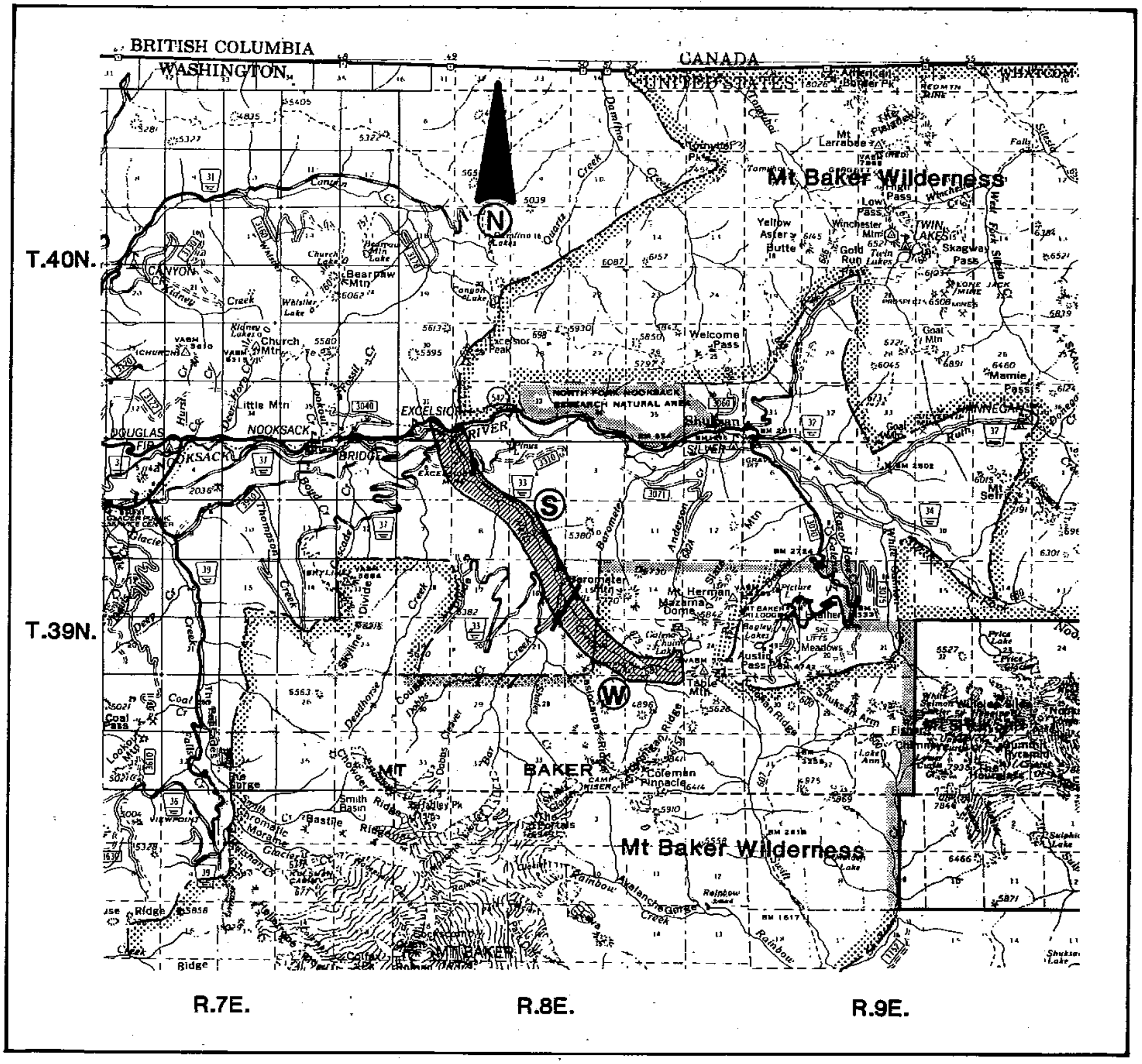
River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles

Potential River Classification

(R) (S) (W)

R - Recreational
S - Scenic
W - Wild


BRITISH COLUMBIA
WASHINGTON
CANADA
UNITED STATES
Mt Baker Wilderness
NORTH FORK NOOKSACK RESEARCH NATURAL AREA
NOOKSACK
RIVER
EXCELSIOR
Welcome Pass
Twin Lakes
Skagway Pass
Church Mtn
Little Mtn
Bearpaw Mtn
Yellow Aster Butte
Goat Mtn
Mt Larrabee
American Border Pk
Mt Herman
Mazama Dome
Table Mtn
Austin Pass
Shuksan Arm
Coleman Pinnacle
MT BAKER
Mt Baker Wilderness
Rainbow
Avalanche Gorge
T.40N.
T.39N.
R.7E.
R.8E.
R.9E.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	2.6 miles	864 acres
(Mt. Baker Wilderness-1.5 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	3.3 miles	1,056 acres
Private (Nooksack Power Plant)	0.1 miles	32 acres
Total	6.0 miles	1,920 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Even though the subject area has no current reported mineral resource production of significance, a small portion of this river has been identified by the BLM as an area of "critical mineral potential". A portion of the area does have at least a moderate potential for the occurrence of gold and silver resources. Bureau of Mines MILS data and Moen (1969) indicate a number of mineral resource occurrences do occur within or immediately adjacent to the river corridor. Of these occurrences, the following are of interest:

> Great Excelsior (T.39 N., R.8 E., Section 6): Major exploration is on-going to determine if mineralization extends north and south of the presently identified ore body, which is reported to contain 5.9 million tons grading 0.33 ounce gold and 2.047 ounces silver per ton.
>
> The Wells Creek Gossan (T.39 N., R.8 E., Section 5): Is reported to contain disseminated fine-grained pyrite in strongly sheared and altered Middle Jurassic andesite assaying up to 0.20 ounces of silver and 0.40% copper.

Other prospected occurrences of gold, silver and copper are reported for T.40 N., R.8 E., Section 31, 32 and 33.

BLM mining claim recordation data indicates that 154 claims have been located within or adjacent to the segment of the river lying in Sections 4,5 and 6, T.39 N., R.8 E., and in Sections 31 and 32, T. 40 N., R.8 E. Of these 154, 62 have been abandoned or declared to be null and void. What portion of those active claims lie within the river corridor is not presently known.

The entire river segment has been classified prospectively valuable for geothermal resources. However, none of it is classified "prospectively valuable" for other leasable mineral commodities. Sections 4, 5, 6, 8 and 9, T.39 N., R.8 E. have been encumbered by two geothermal lease applications. Both applications have been withdrawn.

Based upon the available information, it appears that the section of the river lying near Sections 4, 5 and 6, T.39 N., R.8 E. and Sections 31, 32 and 33, T.40 N., R.8 E. has at least a moderate potential for the occurrence of locatable mineral resources. Numerous unpatented mining claims have been located and maintained along that portion of the river corridor, which does indicate a continuing interest in the area with most interest being directed toward the Excelsior Mine and possible extensions of that ore body. The area also has some potential for the occurrence of geothermal resources, but the pre-existing lease applications have been withdrawn and no serious interest in the leasable minerals of the area is currently being expressed.

WATER RESOURCE DEVELOPMENT: Prior to the classification, a small hydroelectric project application was submitted to FERC. Proposed project facilities within the river corridor consist of a transmission line, a powerhouse, and a diversion structure and penstock. The project capacity will be 15.3 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: A gravel road (#33) parallels the lower 3.3 miles of the area. However, it is not visible from the creek for the first two miles. There is no road up stream of the confluence with Bar Creek.

One bridge crosses Wells Creek just above the fork with Bar Creek.

The Chain Lakes Loop Trail #682 begins at the Artist Point Parking Lot at the end of the Mt. Baker Highway. The trail passes near the headwaters of Wells Creek.

There are 300 yards of rip-rap along the river at river mile 5.5. There are also culverts at this location.

A stream gauge is associated with the small hydro project.

No homes or farms exist along Wells Creek.

RECREATION ACTIVITIES: The majority of recreation opportunities along the creek are nonwater oriented. Among these are driving for pleasure, with excellent vistas of Mt. Baker to the south. Hunting and hiking are also enjoyed in the drainage basin.

Wells Creek is unsuitable for rafting, canoeing and kayaking, or any other type of boating due to a low volume of water. No portion of the river is appropriate for swimming, and fishing use is only incidental due to few opportunities.

No developed campgrounds are present, and there is no opportunity for any development..

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	100	144
Camping	10	15
Viewing (scenery, wildlife, driving for pleasure)	75	114
Misc. (hike, picnic, berry picking, etc.)	10	20
TOTAL	195	293

WILDLIFE AND FISHERIES: There are resident populations of rainbow trout and dolly varden. No salmon can use the creek due to a series of impassable cascades and falls located at the mouth. A SOHA and a critical mountain goat winter range lie adjacent to the creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: A 100-foot falls lies at the mouth of Wells Creek. Cascades and rapids occur for approximately 1 mile upstream. Mazama Falls is in the upper reaches.

The stream gradient is steep, falling some 4,300 feet in 7.7 miles. The stream bottom is mostly boulders and rubble.

Glaciers are present at the headwaters, especially from Mazama and Sholes Glaciers. The creek has discoloration due to glacial runoff 6-8 months of the year, which may limit fish production.

GEOLOGY: Wells Creek originates on the flanks of Mt. Baker and flows into the North Fork Nooksack River. Geology of the headwaters is composed of pyroclastics and andesitic flows associated with Mt. Baker. Extending downstream the stream passes through andesites and metasediments. A unique geologic feature of Wells Creek is that the middle portion of the stream occupies a U-shaped valley that is underlain by glacial till and hard andesitic bedrock. This has restricted downcutting and as a result the stream through this section is very wide, shallow, and braided. As it flows past the contact from andesite to softer metasedimentary rocks, it has been rapidly downcutting since the glacial period and has formed a steep V-shaped canyon extending to the North Fork.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Wells Creek drainage. Available information comes primarily from published historical sources. No prehistoric sites have been recorded within the potential wild and scenic river corridor. During the historic period, the area was within the territory of the Nooksack Indians. The area includes localities identified by the Lummi, Nooksack and Duwamish tribes for the practice of their traditional religion.

In 1899, the Great Excelsior mine was located near the mouth of Wells Creek, which lead to further mineral discoveries up Wells Creek. Power was brought to the mine from the Nooksack Falls powerhouse in 1914. The development of these and other mines along the North Fork Nooksack facilitated the construction of a road along the Nooksack River. A wagon road provided access to Excelsior Mine. Mining interests along Wells Creek waned by 1920. Logging did not significantly impact the tributary drainages above Glacier until around 1940. None of the sites associated with these activities are listed on the National Register of Historic Places.

TIMBER: An old burn and logged-over land dominate the landscape for the first 3 miles upstream from the mouth of Wells Creek. The next 2 miles are in secon growth forest, pole size stands. The last 2 miles to the headwaters contain old growth forests.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
44.1	.484	.442

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: State Highway 542 is located at the confluence of Wells Creek and the North Fork Nooksack. The communities in the area were historically supported by the timber industry. However, the great diversity of recreation opportunities in the area have created a large tourist industry with Mt. Baker being the major draw.

CURRENT ADMINISTRATION: The upper 2 miles of Wells Creek are within the Mt. Baker Wilderness. The entire river is on the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Wells Creek for the next five years:

	Expenses Expected Independent of Designation	**Addit. Expenses with Designation**
General Administration	$1,000	$2,000
Costs of Implementation		2,000
Development of Management Plan		4,800
TOTAL - First Five Years	**$1,000**	**$8,800**

General administration and operation and maintenance costs are estimated to continue at $600 annually.

MIDDLE FORK NOOKSACK RIVER

Whatcom County

The Middle Fork Nooksack River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Middle Fork Nooksack River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From its headwaters on the slopes of Mt. Baker to its confluence with the North Fork Nooksack River.

Segment 1 - Headwaters on Deming Glacier in the NW 1/4 of Section 35, T.38 N., R.7 E.to Ridley Creek (2.7 miles).

Segment 2 - Ridley Creek to the diversion dam in the NE 1/4 of Section 19, T.38 N., R.6 E. (10.2 miles).

Segment 3 - Diversion dam to the confluence with the North Fork Nooksack River (7.1 miles).

RIVER MILEAGE:

Study:	20.0 miles
Eligible:	20.0 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

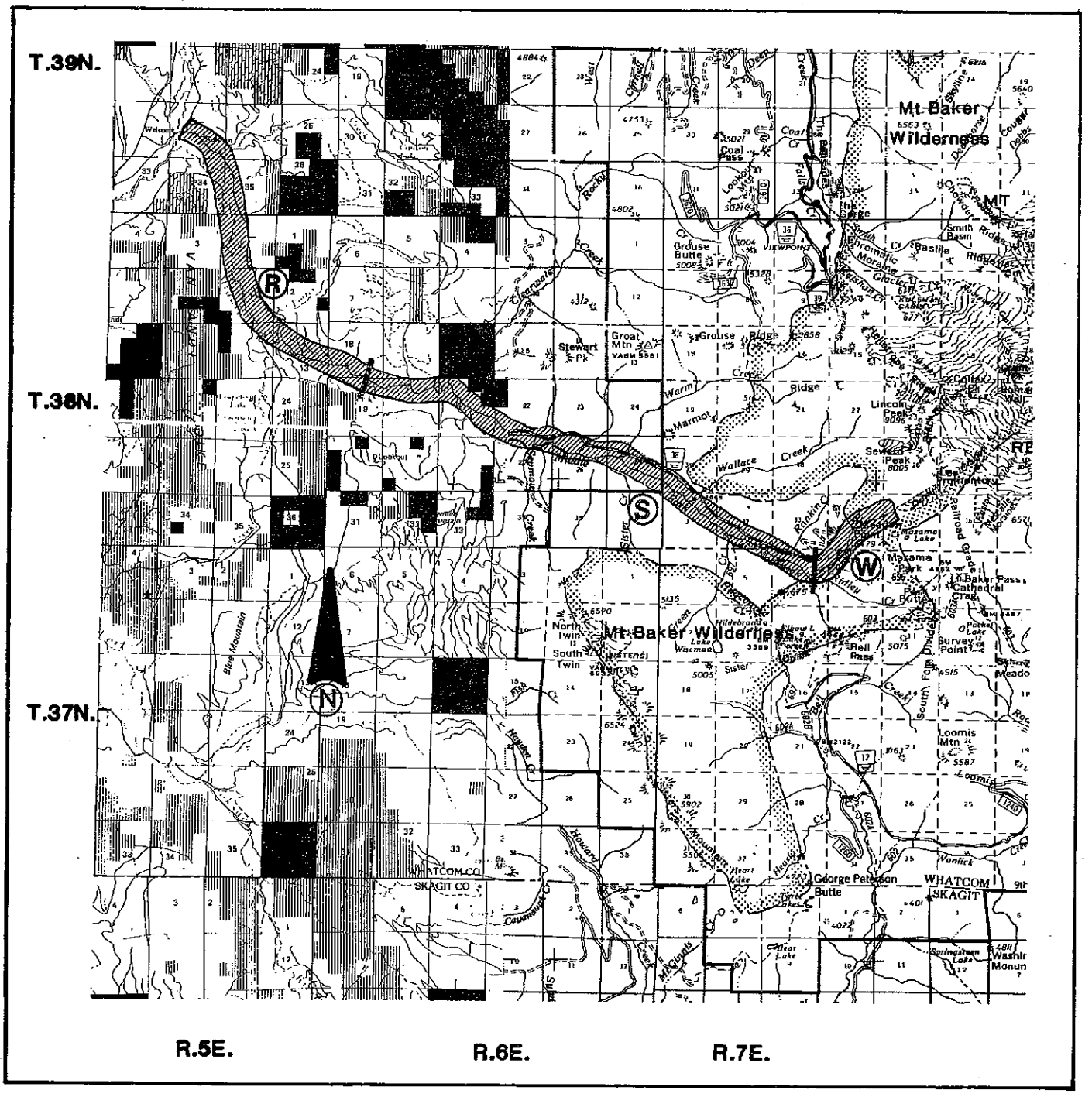
OUTSTANDINGLY REMARKABLE VALUES: The Middle Fork Nooksack River was found to possess "Outstandingly Remarkable" values for the following: wildlife.

Excellent black-tailed deer, Roosevelt elk and mountain goat winter range are found along the river corridor. A SOHA has been designated in the Middle Fork Nooksack drainage.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	2.7	Not recommended	0.0
Segment 2	Scenic	10.2	Not recommended	0.0
Segment 3	Recreation	7.1	Not recommended	0.0

Middle Fork Nooksack River



SUITABILITY DETERMINATION:

The Middle Fork of the Nooksack River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to a majority (70%) of the river being off of the Forest, in state or private ownership. The river received only moderate public support for designation and has high competing resource values within the National Forest. Low water flow and discoloration due to glacial runoff are limiting to fish production on the Middle Fork.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	2.7 miles	864 acres
(Mt. Baker Wilderness-1.0 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	3.4 miles	1,088 acres
Private	5.5 miles	1,760 acres
State	1.3 miles	416 acres
Segment 3		
Private	3.6 miles	1,152 acres
State	3.5 miles	1,120 acres
Total	20.0 miles	6,400 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified as areas of critical mineral potential. A review of available literature including Bureau of Mines MILS data indicates there are no reported occurrences of locatable mineral resources. BLM mining claim recordation data indicates that the area is not encumbered by any unpatented mining claims. The Bureau of Mines MILS data does indicate two occurrences of stone deposits in T.39 N., R.5 E., Section 28, one of which has provided for production in the past. However, it appears that they lie outside the river corridor.

The Bureau of Land Management has classified the western 14 miles as being prospectively valuable (PV) for oil and gas, the eastern 14 miles as being "PV" for geothermal resources, and the eastern 9 miles as being "PV" for coal resources. None of the area, however, has known occurrences of such resources. While the area or immediately adjacent areas have been encumbered by at least eight leases and 4 lease applications, all eight leases have terminated and the four applications have been withdrawn.

Based upon the available information, it appears the area has little if any potential for the occurrence of locatable minerals. It does have at least a low potential for the occurrence of geothermal, coal and oil and gas resources. However, it also appears that the area contains no known mineral resources of more than nominal value, and no serious interest in developing either leasable or locatable mineral resources in the river corridor is currently being expressed.

WATER RESOURCE DEVELOPMENT: The Middle Fork Nooksack River is part of the Bellingham Municipal Watershed. A diversion dam exists at the 7.2 mile point, which feeds water to Lake Whatcom.

The Middle Fork Nooksack River is designated a power site. The river is listed by the State Department of Ecology as a "River of Statewide Significance" based on water volume.

The river is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A preliminary permit for a hydroelectric project has been issued by FERC on Clearwater Creek, a tributary of the Middle Fork Nooksack. Proposed facilities within the river corridor consist of the transmission line. Project capacity will be 1.2 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The Mosquito Lake Road takes off from the Mt. Baker Highway near the confluence of the Middle and North Forks of the Nooksack River. The road parallels the river to mile 5, crossing the Middle Fork Nooksack and proceeding south past Spring Lake, Mosquito Lake and Jorgenson Lake. Mine traffic occurs 3 months a year.

At Porter Creek a Forest Road forks south-east from Mosquito Lake Road and follows the Middle Fork Nooksack nearly to the Forest boundary.

Three bridges cross the river at: Mosquito Lake Road crossing (5 mile point), the diversion dam (7.2 mile point) and the section 21 mining road (9.5 mile point). A trail bridge crosses at mile post 11 on Forest Road 38. A road bridge is also planned at this location.

The Ridley Creek Trail #696 begins near the end of Forest Road 38. The trail parallels the Middle Fork for 1-1/2 miles to the junction with Ridley Creek. The trail crosses the Middle Fork near the creek mouth and continues up Ridley Creek. There is no bridge at the crossing.

The Elbow Lake Trailhead #697 is located on Forest Road 38. The trail crosses the Middle Fork and heads up Green Creek to Elbow and Dorene Lakes.

Farms, residences and the town of Kulshan are all located along the lower six miles of the river.

There is 6500 yards of rip-rap along the Mosquito Lake Road swamp, and 1000 yards on the mining road bridge.

An old railroad track and camp are located 12 miles upstream.

An old trail and ranger station site from the 1930's are located near the river between Warm and Wallace Creeks.

A fish passage is planned at the Middle Fork Dam, 7 miles upstream from the mouth of the river.

An aqueduct runs southwest from the diversion dam below Falls Creek. There is also river access at this point.

RECREATION ACTIVITIES: Public access to the river is limited by private ownership and geographical isolation. No developed trails or campgrounds are located along the river outside of the forest boundary. Hikers gain access to the Mt. Baker Wilderness from trails taking off from the end of Forest Road 38.

Hunters generally stay a distance from the river.

Boating and fishing occur along the lower three miles of the river where challenge and hydraulics are considered above average for canoeing and kayaking. There is currently little use of the river by rafters or swimmers.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	400	660
Waterplay (swim, wade)	200	300
Fishing, Hunting	2,000	2,880
Camping	3,000	4,500
Viewing (scenery, wildlife, driving for pleasure)	1,000	1,520
Misc. (hike, picnic, berry picking, etc.) berry picking, etc.)	1,500	2,940
TOTAL	8,100	12,800

WILDLIFE AND FISHERIES: Extensive winter range for black-tailed deer, Roosevelt elk and mountain goats are found along the river corridor. The upper reaches of the river contain an important spring calving habitat for elk. A SOHA has been designated in the Middle Fork Nooksack drainage.

Low water flows and discoloration due to glacial runoff are limiting to fish production on the Middle Fork. Anadromous fish spawn and rear upstream to the Bellingham diversion dam. Some of the better fish habitat is found near the mouth of the river. Species include Chinook, coho, pink, chum salmon and steelhead trout. Juvenile salmon rear throughout this section of the river and its accessible tributaries. Coho have year round habitation. Above the diversion dam, resident cutthroat, dolly varden and rainbow trout are found.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The Middle Fork Nooksack drains an area of 100 square miles. The river gradient averages 279 feet per mile. Precipitation is quite heavy. Snow and ice fields act as natural surface storage in the upper river basin.

The headwaters, consisting of the upper 10 miles, are characterized by mountainous terrain with a narrow, ravine-like valley. Stream gradient is very steep with numerous cascades and small falls. The bottom is mostly boulders and rubble. Stream width varies from 4 to 27 feet. The water is highly discolored most of the year due to glacial flour and high water scouring.

The lower half of the river starts out in fairly steep mountainous terrain. The river flows in a narrow, ravine-type valley. The course contains numerous rapids, cascades and small falls. The stream width is 18 to 45 feet. In the lower 5 miles of this section, the river breaks out of its narrow confined terrain into a broad valley floor. Stream gradient is moderate and characterized by meandering, riffle-type waters. Channel splitting and braiding is evident with stream widths of 30 to 75 feet.

GEOLOGY: Geology of the headwaters is composed of pyroclastic and lava flow associated with Mt. Baker. Extending downstream, the river passes through metasediments, metavolcanics, and extensive deposits of glacial till. While the valley has the characteristic U-shape of a glaciated valley. The stream has been actively downcutting and has produced a V-shaped channel within the broader valley. Steep forested side-slopes occur along most of the river's length.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Middle Fork Nooksack drainage. Available information comes primarily from published historical sources. No prehistoric sites have been recorded within the Middle Fork drainage; however, it is believed that this reflects the lack of survey rather than lack of use. During the historic period, the Middle Fork was within the territory of the Nooksack Indians. Several villages and fishing sites were reported to have been along the main river and at the mouths of creeks. The area includes localities identified by the Duwamish and Samish tribes for the practice of their traditional religion.

Historic sites are associated primarily with Forest Service Administration and are relatively recent. Some early logging took place, but it did not result in significant developments along the river. None of the sites have been identified as eligible for the National Register of Historic Places.

TIMBER: Outside of the Forest boundary, private clearcuts are located on both sides of the river. Large areas of blowdown occurred as a result of a high wind storm. These trees were salvaged logged in 1968.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest systems lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
40.2	1.629	1.462

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: Along the lower five miles of the river, cattle and horses graze along the river bank.

SOCIO-ECONOMIC EFFECTS: Although its headwaters are in the Mt. Baker Wilderness, the Middle Fork of the Nooksack River is accessible by road for much of its length. The communities of Deming and Van Zandt are near its confluence with the North Fork Nooksack. These communities, traditionally supported by the timber industry and agriculture, have been impacted by the creation of North Cascades National Park, the Mt. Baker Wilderness and the increasing population of nearby cities. Bellingham is 15 miles away and Vancouver, British Columbia is 60 miles away. Canadians are visiting the area in increasing numbers, acquiring vacation homes in the mountain communities and utilizing the recreation resources of the area. There are a great diversity of outdoor recreation opportunities in the area, which include kayaking, hunting, fishing, hiking, camping, climbing and sightseeing.

CURRENT ADMINISTRATION: The river flows through the Mt. Baker Wilderness and National Forest lands to the forest boundary administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, most of the shoreline of the Middle Fork Nooksack River has been classified as Conservancy by Whatcom County. The exception is a 1 1/2 mile section of shoreline just upstream from the Mosquito Lake Bridge. This section is classified as Natural. These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Natural designation denotes areas characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relatively intolerant of intensive human use.

The land along the Middle Fork from the forest boundary to Porter Creek, outside of federal jurisdiction, is zoned by Whatcom County for Forestry Use. From Porter Creek to the confluence with the Nooksack River, the corridor is zoned for Rural Use, with developments restricted to 5 or 10 acre tracts.

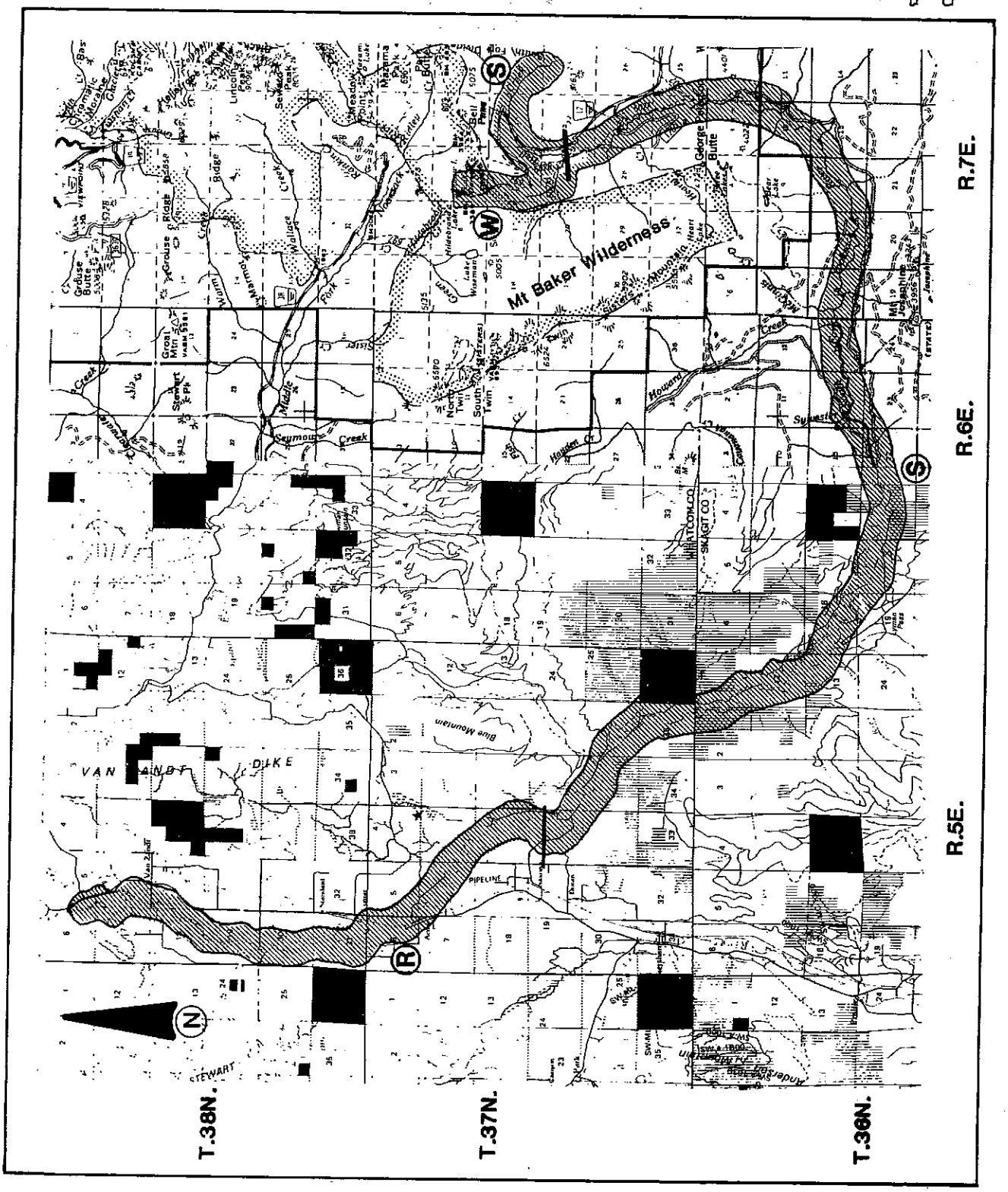
FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Middle Fork Nooksack River for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 1,000	$ 20,000
Costs of Implementation		10,000
Development of Management Plan		35,500
Development Costs	0	50,000
Operation and Maintenance Costs		5,000
TOTAL – First Five Years	**$ 1,000**	**$120,500**

General administration and operation and maintenance costs are estimated to continue at $5,200 annually.

South Fork Nooksack River
Bell Creek



SOUTH FORK NOOKSACK RIVER
BELL CREEK

Whatcom and Skagit Counties

The South Fork Nooksack River and Bell Creek were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The South Fork Nooksack River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: The South Fork Nooksack flows from its headwaters at Lake Doreen and Elbow Lake and from tributaries flowing from the Twin Sisters mountain range to its confluence with the North Fork Nooksack River.

Bell Creek, a tributary, originates on the South Fork Divide and flows into the South Fork Nooksack River.

Segment 1 - Bell Creek headwaters on Loomis Mtn. in NE 1/4 of Sec. 23, T.37N., R.7 E. to confluence with S. Fork Nooksack River (3.0 miles).

Segment 2 - Headwaters of the South Fork Nooksack in the SW 1/4 of Sec. 9, T.37N., R.7 E. to Bell Creek (2.3 miles).

Segment 3 - Bell Creek to Mt. Baker-Snoqualmie N.F. boundary (4.3 miles).

Segment 4 - Mt. Baker-Snoqualmie N.F. boundary to Saxon Bridge in SE 1/4 of Sec. 21, T.37N., R.5 E. (20.0 miles).

Segment 5 - Saxon Bridge to confluence with N. Fork Nooksack River (12.9 miles).

RIVER MILEAGE:

Study:	42.5 miles
Eligible:	42.5 miles
Forest Plan:	9.6 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The South Fork Nooksack River was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

Bell Creek possesses values for Wildlife only.

Both river areas provide forage and cover for deer and elk. There is also spring elk calving in the drainage.

The South Fork Nooksack provides spawning and rearing habitat for chinook, coho, pink and chum salmon as well for resident rainbow and cutthroat trout, dolly varden and summer-run steelhead.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Scenic	3.0	Scenic	3.0
Segment 2	Wild	2.3	Wild	2.3
Segment 3	Scenic	4.3	Scenic	4.3
Segment 4	Scenic	20.0	None recommended	0
Segment 5	Recreation	12.9	None recommended	0

SUITABILITY DETERMINATION:

The upper 6.8 miles of the South Fork of the Nooksack was found to be suitable for inclusion in the preferred alternative of the Forest Plan. The Forest recommends that the State designate the lower sections of the river due to high private competing use outside of the Forest boundary. The South Fork had outstandingly remarkable values for fish and wildlife, and was one of the rivers listed in the Nationwide Rivers Inventory of the National Park Service in 1982. There is public support for designation of this river, as well as a recommendation for designation in the 1988 Washington State Scenic River Assessment.

Bell Creek was also found to be suitable as a logical extension of the South Fork of the Nooksack.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	3.0 miles	960 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest (Mt. Baker Wilderness-1.0 mile)	2.3 miles	736 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	4.0 miles	1,376 acres
Private	0.3 mile	160 acres
Segment 4		
Private	18.9 miles	6,048 acres
State	1.1 miles	352 acres
Segment 5		
Private	12.9 miles	4,128 acres
Total	42.5 miles	13,600 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segment is classified as an area of critical mineral potential. However, a review of available literature including Bureau of Mines MILS data does indicate some reported magnesium, olivine and chromium occurrences. Those occurrences appear to be concentrated in Sections 3,4,9 and Section 16, T.37N., R.7 E., and Section 34, T.37N., R.7 E. BLM mining claim recordation data also indicates that Sections 16, 27, 28, 33 and 34, T.37N., R.7 E. and Sections 3,4 and 9, T.36N., R.7 E. are or have been encumbered by 144 unpatented mining claims. Of those 144 claims, 73 have either been abandoned or declared to be null and void. How many claims actually encumber the river corridor is not known.

The BLM has classified the northwest 7 miles as being prospectively valuable (PV) for oil and gas, has classified the eastern 12 miles "PV" for geothermal resources, and classified the northwest 7 miles "PV" for coal resources. However, only one occurrence of coal (Section 5, T.38 N., R.5 E.) and no known occurences of oil, gas or geothermal resources has been reported for the area. None of the area is encumbered by mineral leases or pending lease applications.

Based upon the available information, it appears that the segment of the river lying within Sections 27, 28, 34 and 35, T.37N., R.7 E. and in Sections 2, 3 and 9, T. 36N., R.7 E. does have at least a low potential for the occurrence of magnesium, chromite and olivine. It is encumbered by numerous unpatented mining claims indicating a continuing interest in the area's locatable mineral resources. The area also has potential for the occurrence of coal, oil and gas and geothermal resources. However, none of the area is encumbered by mineral leases or lease applications, indicating that no serious interest in the leasable minerals of the area is currently being expressed.

WATER RESOURCE DEVELOPMENT: Two miles of the South Fork Nooksack are in power site classification. Some lands along the lower river reaches are under Nooksack Indian tribal jurisdiction. The South Fork of the Nooksack is classified as "Protected" from hydropower development by the NW Power Planning Council. Bell Creek is not classified for protection status.

A preliminary permit for a hydroelectric project has been issued by FERC on Howard Creek, a tributary to the South Fork. Proposed facilities located within the river corridor consist of the transmission line. The capacity of the project will be 4.2 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: State Highway 9 roughly parallels the river to Mosquito Lake Road. At Acme it crosses and continues south as the river veers to the east.

There are forest roads in the river corridor for most of its length, appearing just before the southern boundary of the national forest.

There is one bridge crossing over Bell Creek and one over the South Fork that occur inside the Forest boundary. Seven bridges cross downstream from the Forest boundary, including both State Highway 9 and the Burlington Northern railroad.

Potter Road crosses the river in SW 1/4 Sec. 8, T.38 N., R.5 E., Staud/Hillside Road crosses on the section line between 30 and 19, T.38 N., R.5 E., and Saxon Road crosses the river in SE 1/4 Sec. 21, T.37N., R.5 E.

The south end of the Elbow Lake Trail #697 takes off from the end of Forest Road 12, and parallels the South Fork Nooksack to its headwaters at Elbow and Dorene Lakes.

No developed campgrounds exist on the South Fork Nooksack or Bell Creek. A private recreation vehicle park is in Acme.

The City of Bellingham water pipeline crosses the river in SW 1/4 Sec. 9, T.37N., R.5 E. The Middle Fork pipeline dike lies at the mouth of Hutchinson Creek.

A reclaimed olivine quarry exists at the forest boundary.

2,000 yards of rip-rap was developed on the bridge of F.S. Road #1260, 500 yards of rip-rap at the Olivene Mire bridge, and extensive rip-rap outside of National Forest land.

The South Fork valley floor has been cleared and developed primarily in agriculture with scattered rural residences and the small communities of Saxon, Acme, Clipper and VanZandt.

A Lummi Tribal Residential Development is located in Sec. 19, T.38 N., R.5 E.

Fourteen log weirs were placed in the river to create pools for fish between the forest boundary and Saxon Bridge.

Near the mouth of Sylvester Creek there is a fisheries improvement project that allows salmon passage through a steep cascade - falls. Work consisted of blasting large boulders to allow passage. The river still appears natural and has no artificial structures.

RECREATION ACTIVITIES: The South Fork Nooksack River receives use by rafters, canoers, kayakers and swimmers. The majority of use is from Skookum Creek downstream. In summer, there is not enough water for canoes, but water levels are adequate for kayakers and rafters. There are scenic views, abundant wildlife and good gravel bars for resting. Swimmers enjoy the summer water temperature of 65 to 70 degrees. However, limited public access to the lower half of the river limits use.

The South Fork receives moderate use from fisherman for the resident Cutthroat and Rainbow Trout and low use for anadromous fish consisting of Coho Salmon and Winter Steelhead.

Sightseers enjoy the prominent view of the Twin Sisters Range and Mt. Baker from Forest Road 12. Along the lower portion of the South Fork, there are views of rock cliffs, distant waterfalls and a pastoral landscape.

Near the town of Acme, visitors enjoy views of Blue Mountain, beaches, wetlands and a high degree of vegetation and wildlife diversity. Sunny areas are ideal for picnicking, swimming, sunbathing, canoeing and boating.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	600	990
Waterplay (swim, wade)	200	300
Fishing, Hunting	3,000	4,320
Camping	4,200	6,300
Viewing (scenery, wildlife, driving for pleasure)	1,500	2,280
Misc. (hike, picnic, berry picking, etc.)	1,800	3,528
TOTAL	11,300	17,718

WILDLIFE AND FISHERIES: The entire South Fork Nooksack has important elk habitat. The upper reaches of the South Fork and Bell Creek contain important winter and summer habitat for elk and deer. The adjacent slopes of Sisters Mountain and Loomis Mountain contain mountain goat habitat. The lower reaches of the South Fork contain a high degree of vegetation and wildlife diversity. Marshes and a wetland habitats are found throughout this stretch.

The South Fork Nooksack provides spawning and rearing habitat for chinook, coho, pink and chum salmon. Spring chinook spawn in the 10 mile river stretch above the Saxon Bridge. Resident rainbow and cutthroat trout and dolly varden are found in the upper reaches of the South Fork and Bell Creek. The Lummi Indian Tribe operates a salmon production facility at Skookum Creek. The hatchery has produced good coho returns to the lower river tributaries. Pink and chum production is limited. A remnant population of summer run steelhead remains on the South Fork.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The South Fork Nooksack River has excellent water quality and is listed by the State Department of Ecology as a "River of Statewide Significance" based on water volume.

The headwaters area of both rivers fall over steep mountain terrain through a shallow valley floor. Two miles down the South Fork, the valley deepens and remains narrow. The river contains numerous cascades and rapids. Fourteen miles downstream from the headwaters of the South Fork, there are large cascades which drop 20 to 25 feet in a very short distance.

The middle section of the South Fork flows through a very narrow canyon with sharply rising sideslopes. A large 20 to 50 foot waterfall occurs in the upper stretches of this section of the river. All tributaries along this stretch exhibit steep mountain characteristics with many cascades and falls.

The lower section of the South Fork starts as a narrow valley. Below Saxon Bridge, the valley opens abruptly into a broad, flat bottomland with sidehills rising steeply from the valley floor.

The river basins receive approximately 100 inches of precipitation annually. Low flows occur in late summer/early Fall. The low flows are extreme on the rivers because of the lack of augmentation from melting ice packs. Neither river has a glacial origin. In mid-winter, the low flow on the South Fork is less pronounced, due to the lower elevation of the South Fork and because most of the precipitation that falls in the basin is not stored as snow.

The South Fork Nooksack River gradient is 131 feet per mile. Below Skookum Creek, the river channel is braided. The stream bottoms are composed of large rock, boulders and rubble.

The South Fork Nooksack River has sixty small tributaries.

GEOLOGY: The bedrock geology is composed primarily of metasediments and metavolcanics. Extensive deep surficial deposits of glacial till and lacustrine materials occur within the valley bottom and toe slopes. Much of the valley has the typical U-shape resulting from past continental and alpine glaciation. As the South Fork reenters Whatcom County from Skagit County, a small gorge has been cut through phyllite and contains a unique kame moraine. It is an extremely fragile environment and is currently over-used.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the South Fork Nooksack River, and no prehistoric sites are recorded. The absence of sites probably reflects the lack of survey rather than lack of use. During the historic period the South Fork was within the territory of the Nooksack Indians. The South Fork was known as a good fishing river for eight miles above the forks. Several fishing villages were located at the mouths of tributaries. The potential wild and scenic river corridor includes areas identified by the Lummi, Nooksack and Samish tribes for the practice of their traditional religion.

The South Fork of the Nooksack does not appear to have played a significant role in regional development. There are no sites within the potential wild and scenic river corridor recognized on either State or National Historic Registers.

TIMBER: Logging presents a high to moderate influence along the entire length of the rivers.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	----------ASQ----------	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
78.1	1.948	1.906

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The communities located along the lower South Fork Nooksack are traditionally supported by agriculture and timber. The regional plan supports a growing agriculture base, with any further commercial or residential development discouraged. The area has recently been impacted by the creation of the North Cascades National Park and the Mt. Baker Wilderness Area. The recreation needs of Bellingham (15 miles) and the metropolitan Vancouver B.C. area have brought economic change to the mountain towns. Canadians come in increasing numbers to the area, acquiring vacation homes and utilizing the recreation resources of the area. The resources include Alpine skiing, hunting, fishing, hiking, camping, climbing and sightseeing.

CURRENT ADMINISTRATION: National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. The lower reaches of the river pass along Lummi Tribal land.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the South Fork Nooksack River has been classified by Whatcom County as:

> Conservancy from the forest boundary to the Mosquito Lake Road, except for a narrow area in Sec. 35, T.37N., R.5 E., which is designated Natural.
>
> Rural from the Mosquito Lake Road to approximately 1 mile south of the confluence with the Nooksack River.

These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Natural designation denotes areas characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relatively intolerant of intensive human use. A Rural designation denotes shoreline areas characterized by agricultural uses, low density residential where most urban services are not available, and areas which provide buffer zones and open space between predominantly urban areas.

The Skagit County Comprehensive Plan has zoned the land along the South Fork Nooksack, outside of federal jurisdiction, for Forestry Use. Whatcom County has currently designated land along the river as "GP" for General Provisions. This area will soon be rezoned.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the South Fork Nooksack River and Bell Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 1,000	$ 20,000
Costs of Implementation		20,000
Development of Management Plan		78,300
Development Costs	160,000	50,000
Operation and Maintenance Costs		5,000
TOTAL - First Five Years	**$161,000**	**$163,300**

General administration and operation and maintenance costs are estimated to continue at $5,200 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

A portion of this river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Scenic	Semi-Primitive, Non-Motorized Recreation	316
		Old Growth Habitat (spotted owl)	380
		Deer and Elk Habitat Enhancement	21
		Timber Management	274
Segment 2	Wild	Old Growth Habitat (spotted owl)	21
		Semi-Primitive, Non-Motorized Recreation	275
		Wilderness-Transition	148
		Wilderness-General Trailless	127
		Wilderness-Trailled	42
		Deer and Elk Habitat Enhancement	168
		Timber Management	63
		Pine Marten/pileated woodpecker habitat	21
Segment 3	Scenic	Semi-Primitive, Non-Motorized Recreation	274
		Wilderness-Transition	168
		Wilderness-Trailed	21
		Wilderness-General Trailless	126
		Old Growth Habitat (spotted owl)	63
		Pine martin/pileated woodpecker habitat	21
		Deer and Elk Habitat Enhancement	1,308
		Timber Management	63

BAKER RIVER

Whatcom County North Cascades National Park

The Baker River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters in Mineral and Picket Creeks to Baker Lake.

Segment 1 - Headwaters in North Cascades National Park near Perfect Pass in NE 1/4 of Sec. 28, T.39 N., R.11 E. to Blum Creek (11.2 miles).

Segment 2 - Blum Creek to Baker Lake (2.1 miles).

RIVER MILEAGE:

Study:	13.3 miles
Eligible:	13.3 miles
Forest Plan:	13.3 miles recommended for designation in preferred alternative

Note: This recommendation is pending evaluation by the National Park Service.

OUTSTANDINGLY REMARKABLE VALUES: The Baker River was found to possess "Outstandingly Remarkable" values for the following: Scenic, Fisheries, and Wildlife.

The lower half of the river has occasional views of logging and roads, but Mt. Challenger dominates the view looking upstream. Mt. Blum can be viewed to the east. The upper third of the river has excellent views of Mt. Pugh, White Chuck Mountain and Glacier Peak.

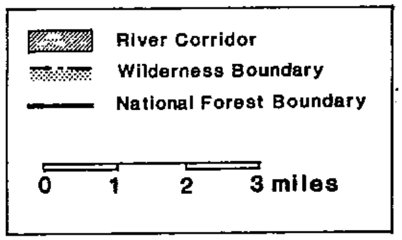
Excellent winter range for deer and elk, along with wintering and nesting habitat for bald and golden eagles are found along Baker River. The lower river flows through a SOHA and beaver habitat.

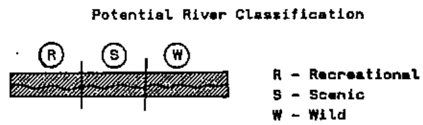
Sockeye, coho and summer and fall chinook are released into Baker Lake and swim up Baker River to seek their natural spawning grounds. Summer run steelhead are also transported.

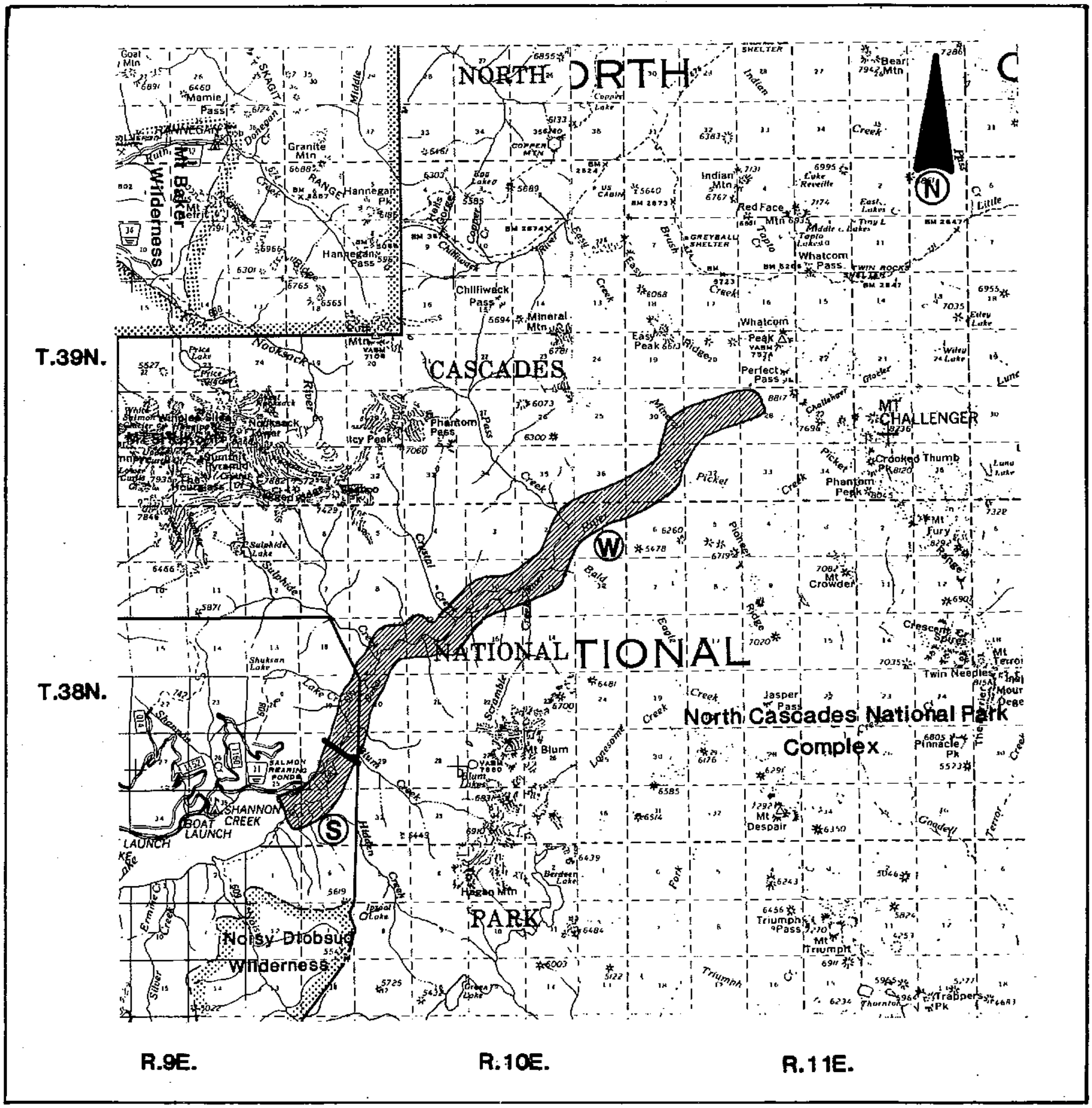
POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	11.2	Wild	11.2
Segment 2	Scenic	2.1	Scenic	2.1

Baker River


River Corridor
Wilderness Boundary
National Forest Boundary
0 1 2 3 miles


Potential River Classification
R
S
W
R - Recreational
S - Scenic
W - Wild


T.39N.
T.38N.
R.9E.
R.10E.
R.11E.
NORTH
CASCADES
NATIONAL
PARK
North Cascades National Park Complex
Mt Baker Wilderness
Noisy Diobsud Wilderness
Granite Mtn
Hannegan Pk
Hannegan Pass
Mamie Pass
Chilliwack Pass
Mineral Mtn
Phantom Pass
Icy Peak
Easy Peak
Whatcom Peak
Whatcom Pass
Perfect Pass
Indian Mtn
Red Face Mtn
MT CHALLENGER
Crooked Thumb
Phantom Peak
Mt Fury
Mt Crowder
Crescent Crk Spires
Twin Needles
Jasper Pass
Mt Blum
Blum Lakes
Hagan Mtn
Berdeen Lake
Mt Despair
Triumph Pass
Mt Triumph
Trappers Pk
Pinnacle Pk
Shuksan Lake
Sulphide Lake
Price Lake
SHANNON CREEK
BOAT LAUNCH
SALMON REARING PONDS
Nooksack River
Sulphide Cr
Lake Cr
Blum Cr
Hidden Creek
Pass Cr
Bald Eagle Ridge
Picket Creek
Mineral Creek
Brush Creek
Easy Creek
Triumph Creek
Goodell Creek
Silver Creek
Ermine Creek

SUITABILITY DETERMINATION:

Baker River was found to be suitable for inclusion in the preferred alternative of the Forest Plan. The entire river is in federal ownership, and there would be few resource conflicts on Forest Service land. Baker River was found to possess outstandingly remarkable values for scenery, fisheries, and wildlife, and there was public support for designation.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
NPS North Cascades National Park	10.0 miles	3,200 acres
Mt. Baker-Snoqualmie National Forest	1.2 miles	384 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	2.1 miles	672 acres
Total	13.3 miles	4,256 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the area has no reported occurrences of locatable mineral resources. None of the area is encumbered by unpatented mining claims, mineral leases or lease applications, and no part of the area has been classified by the BLM as being prospectively valuable for leaseable mineral resources.

Therefore, based upon the available information, it appears that the area has a relatively low potential for the occurrence of locatable and leasable mineral resources, and no serious interest in either the locatables or leasables has been expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments along the river. The lower 9.7 miles of the Baker River are classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are no forest roads, homesites or farms bordering the river.

The Baker River Trailhead #606 is located on Forest Road 1168 near the end of the Baker Lake Highway. The maintained trail runs upstream to Sulphide Creek on the west side of the river. The trail continues unmaintained up to Bald Eagle Creek.

There is a Park Service backcountry camp near Sulphide Creek.

Currently, no bridges span the river. An old abandoned road bridge 1 mile upstream washed out in the late 1960's. A proposed trail bridge would cross the river just above Blum Creek to access the east side of Baker Lake.

There is 1,000 yards of rip-rap 1/2 mile above the abandoned bridge, and 500 yard of rip-rap at the bridge.

The meandering nature of the river has caused unsuccessful attempts at channelization which was aimed at protecting sockeye spawning beaches.

A Washington Department of Fisheries artificial spawning beach lies at the head of Baker Lake and mouth of upper Baker River for chinook, coho and sockeye.

RECREATION ACTIVITIES: Dispersed recreation occurs along the drainage. The Baker River Trail provides access to a Park Service backcountry camp near Sulphide Creek.

Good dolly varden fishing is available as far as Bald Eagle Creek. There is some potential for kayaking from Sulphide Creek downstream, but boats must be portaged to the river. The river is not used for rafting or swimming.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	10	15
Waterplay (swim, wade)	20	30
Fishing, Hunting	500	720
Camping	1,500	2,250
Viewing (scenery, wildlife, driving for pleasure)	1,000	1,520
Misc. (hike, picnic, berry picking, etc.)	2,000	2,920
TOTAL	5,030	7,455

WILDLIFE AND FISHERIES: The drainage contains extensive winter range for the black-tailed deer and Roosevelt elk and wintering and nesting habitat for bald and golden eagles. Beaver activity is prevalent along the lower 2 miles of the river. The lower river also flows through a SOHA.

Salmon returning to the Baker River are trapped in lower Baker River below the dam. They are transported by truck to Baker Lake for release. An artificial spawning beach complex was built at the head of Baker Lake to handle beach-spawning sockeye salmon, whose natural lakeshore habitat was inundated. Coho and summer and fall chinook are released into the lake to seek their natural spawning grounds, which include Baker River. Summer-run steelhead are also transported. The Baker River provides salmon habitat upstream to Pass Creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: From the river's headwaters for 4 to 5 miles, the gradient is steep with numerous cascades and rapids. They are narrowly confined with few splits. The valley alternately broadens and narrows before opening onto a fairly wide, flat floodplain. Sheer rock outcroppings, large rocks and boulders with some rubble gravel are found. Below Eagle Creek, fast riffles and pool-riffles predominate with moderate gradient and increased braiding. From Sulphide Creek to Blum Creek, the river has a moderate gradient. The channel shifts and meanders with numerous channels. Fourteen tributaries drain into the Baker River above Blum Creek.

Water quality is excellent within the Wilderness. The entire river is colored by suspended glacial sediments during the snowmelt season.

GEOLOGY: The bedrock geology along the Baker River Valley is dominated by metasediments and metavolcanics with some lesser bodies of phyllite. Extensive glaciation during the last glacial period carved out the valley and left thick deposits of glacial till and lacustrine materials. The river is wide, braided, and carries a heavy bedload.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the proposed Baker River Wild and Scenic River corridor. Few project surveys have been conducted and historic research is limited. The lack of known sites is believed to reflect the lack of survey of the drainage. During the historic period, the area was within the territory of the Skagit Indians. No localities used for traditional religious practices are known within the corridor.

The Forest Service was present in the area in the 1930's. A shelter was built along the river, probably for use by fire suppression and detection crews. The shelter is still present, but has been determined ineligible for the National Register of Historic Places.

TIMBER: Along the lower half of the drainage, there are occasional views of logging activity on private land. No logging activity has occurred along the river corridor. Roads and logging activity have been a minor influence outside the Wilderness boundary.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
25.5	.096	.089

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: Baker River is approximately 25 miles from Concrete (pop. 570) on SR 20. Concrete, once largely economically dependent on the cement plant (now closed) derives its major support from the timber industry and a shake mill. To an increasing degree, tourism and recreation contribute to the economy of the community. Baker Lake attracts many visitors for camping, boating and fishing. The Ross Lake recreation area is not far away and the Skagit River is renowned for its steelhead fishing.

CURRENT ADMINISTRATION: The first 10 miles of the river flow downstream through North Cascades National Park Service Complex Wilderness administered by the National Park Service. The remaining 3.3 miles flow through the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Baker River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 1,000	$ 3,000
Costs of Implementation		3,000
Development of Management Plan		6,500
Development Costs	125,000	3,000
Operation and Maintenance Costs		1,000
TOTAL - First Five Years	**$126,000**	**$ 16,500**

General administration and operation and maintenance costs are estimated to continue at $1,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Semi-Primitive Non-Motorized Recreation	316
		Old Growth Habitat (spotted owl)	21
Segment 2	Scenic	Semi-Primitive Non-Motorized Recreation	337
		Scenic Corridor (Foreground)	21
		Scenic Corridor (Middleground)	63
		T&E Species (bald eagle)	105
		Goat Habitat	21

NOISY CREEK

Whatcom County North Cascades National Park

Noisy Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Bacon Peak downstream to Baker Lake.

Segment 1 - Headwaters on Bacon Peak in SE 1/4 of Sec. 29, T.37 N., R.10 E. to Baker Lake (6.1 miles).

RIVER MILEAGE:

Study:	6.1 miles
Eligible:	6.1 miles
Forest Plan:	6.1 miles recommended for designation in preferred alternative

Note: This recommendation is pending evaluation by the National Park Service.

OUTSTANDINGLY REMARKABLE VALUES: Noisy Creek was found to possess "Outstandingly Remarkable" values for the following: wildlife and ecological.

Species found in the drainage include deer, bear, mountain goats, bald eagles, osprey and cougar. A SOHA extends for most of the length of Noisy Creek through the Noisy-Diobsud Wilderness.

The drainage supports stands of low elevation old-growth.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	6.1	Wild	6.1

SUITABILITY DETERMINATION:

Noisy Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the lack of competing resource values. All but the lower one mile of the river is in forest service or national park service wilderness. There is public support for designation as well as outstandingly remarkable values for wildlife and ecology. It was felt that these values outweighed potential future use for hydropower.

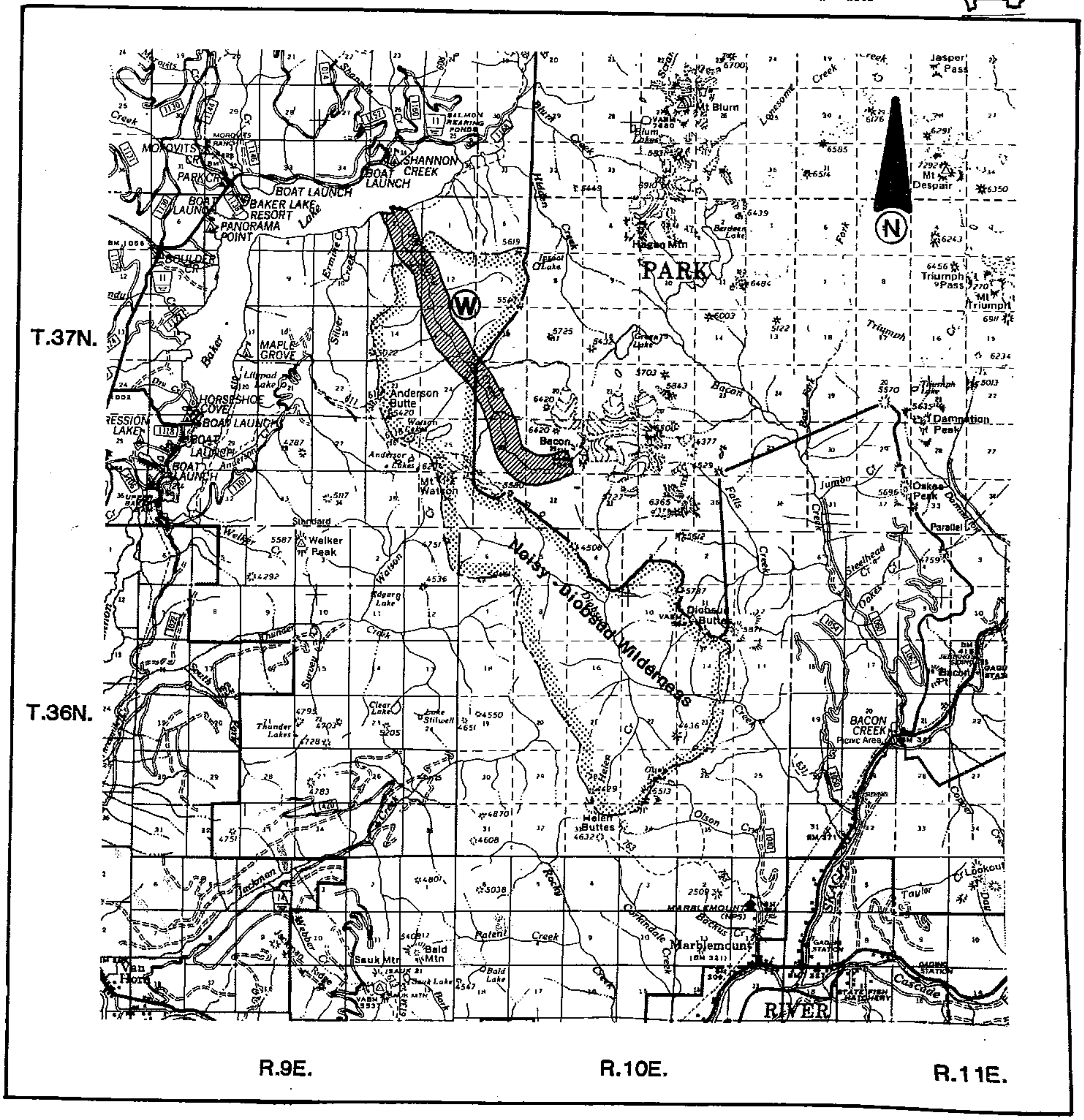
Noisy Creek

River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles

Potential River Classification

R - Recreational
S - Scenic
W - Wild



T.37N.
T.36N.
R.9E.
R.10E.
R.11E.
Mt Blum
Blum Lakes
Hagan Mtn
PARK
Triumph Pass
Mt Triumph
Mt Despair
Jasper Pass
Damnation Peak
Oakes Peak
Triumph
Bacon Cr
Jumbo Cr
Falls Creek
Steelhead Cr
Oakes Cr
SHANNON CREEK BOAT LAUNCH
BOAT LAUNCH
BAKER LAKE RESORT
PANORAMA POINT
BOULDER CR
Baker Lake
MAPLE GROVE
HORSESHOE COVE
BOAT LAUNCH
Anderson Butte
Watson Lakes
Anderson Lakes
Mt Watson
Welker Peak
Bacon Peak
Noisy-Diobsud Wilderness
Diobsud Buttes
Thunder Lakes
Clear Lake
Lake Stillwell
Helen Buttes
Olson Cr
BACON CREEK
Marblemount
MARBLEMOUNT
Bacon Cr
Sauk Mtn
Bald Mtn
Bald Lake
Sauk Lake
Jackman
Rocky Creek
Diobsud Creek
Taylor
Lookout
Cascade
RIVER
Ermine Cr
Silver Creek
Watson
Survey
Thunder
Creek
Hidden Creek
Blum Creek
Lonesome Creek
Bacon Cr
Welker
Van Horn
Webber Cr
Helen
Parallel
STATE FISH HATCHERY
SALMON REARING PONDS

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
NPS, North Cascades National Park	2.7 miles	864 acres
Mt. Baker-Snoqualmie National Forest (Noisy-Diobsud Wilderness - 2.4 miles)	2.7 miles	864 acres
Private	0.7 mile	224 acres
Total	6.1 miles	1,952 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the area has no known occurrences of locatable mineral resources of significance. However, it is reported that placer gold does occur in the area. None of the area is encumbered by unpatented mining claims, mineral leases or mineral lease applications. BLM has classified the northern three miles as being prospectively valuable for geothermal resources. It is not considered to be prospectively valuable for any other leasable mineral commodities. Based upon the available information, it appears that the area does have at least a low potential for the occurrence of gold deposits and geothermal resources. The potential for other locatable and leasable mineral resources appears to be relatively low and no serious interest in either the locatables or leasables is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments along Noisy Creek. The creek is classified as "Protected" from hydropower development by the Northwest Power Planning Council. A hydroelectric project license application was submitted to FERC. Proposed facilities within the river corridor consist of a transmission line, power house, diversion structure and penstock. The capacity of the project will be 10.7 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are no logging roads or bridges along the Noisy Creek drainage. A trail bridge once crossed Noisy Creek just as it entered Baker Lake, but has since been washed away. There are plans to replace the bridge when the East Bank Trail is completed.

There are no developed campgrounds along the creek. The only camping occurs on Baker Lake, on a point north of the mouth of Noisy Creek.

A trail provides access to the upper reaches of the creek. The trail is located on the north side of Noisy Creek and crosses the creek at 1 mile. There is no bridge crossing.

There are no homesites or farms bordering the creek.

A cedar salvage sale is planned to be logged within 3 years.

RECREATION ACTIVITIES: Fishermen catch native trout along the lower 3 miles of the creek. There are no rafting or canoeing opportunities.
Dispersed recreation users hike a trail to the upper part of the creek.

Recreation Activities (in estimated Recreation Visitor Days (RVD's), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	250	360
Misc. (hike, picnic, berry picking, etc.)	150	210
TOTAL	400	570

WILDLIFE AND FISHERIES: The Noisy Creek area contains quality winter range for black-tailed deer. Other species found in the drainage include bear, mountain goats, bald eagles, osprey and cougar. A SOHA extends for most of the length of Noisy Creek through the Noisy-Diobsud Wilderness.

Native trout are found in Noisy Creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Water quality is excellent. Unnamed glaciers are found above Noisy Creek on Bacon Peak and Mt. Watson. In the last miles, the creek falls rapidly through a series of short cascades.

GEOLOGY: The bedrock geology along Noisy Creek is comprised of phyllite schist, greenschist, and include some schistose metaconglomerate. Thick deposits of glacial till occur on this U-shaped glacial valley. Forested lower sideslopes merge into rock outcrops, brushy zones, and perennial snow patches on the higher slopes.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Noisy Creek and no prehistoric or historic sites are recorded. The lack of sites may represent the lack of surveys of the area.

Noisy Creek was within the territory of the Upper Skagit tribe during the historic period. Localities used in traditional religious practices exist within the proposed Wild and Scenic River corridor.

TIMBER: There is one old clearcut near the creek where it enters Baker Lake.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
3.8	0	0

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: Accessible only by trail from the north end of Baker Lake, Noisy Creek has its headwaters in North Cascades National Park and tumbles into Baker Lake on its less developed east side. The community of Concrete (pop. 570) is approximately 25 miles from the trailhead.

Concrete, once largely economically dependent on the cement plant (now closed) derives its major support from the timber industry via logging and a shake mill. To an increasing degree, tourism and recreation contribute to the economy of the community. Baker Lake attracts many visitors for camping, boating, and fishing. The nearby Skagit River is renowned for its steelhead fishing, and the Ross Lake Recreation Area is nearby.

CURRENT ADMINISTRATION: The creek flows through the North Cascades National Park Service Complex Wilderness administered by the National Park Service from its headwaters downstream 2.7 miles. The next 2.5 miles flow through the Noisy-Diobsud Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Noisy Creek for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 1,000	$1,000
Costs of Implementation		1,000
Development of Management Plan		2,300
Development Costs	60,000	
Operation and Maintenance Costs	0	
TOTAL - First Five Years	**$61,000**	**$4,300**

Development costs are for completion of East Bank trail.

General administration and operation and maintenance costs are estimated to continue at $400 annually.

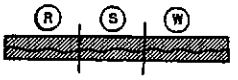
LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

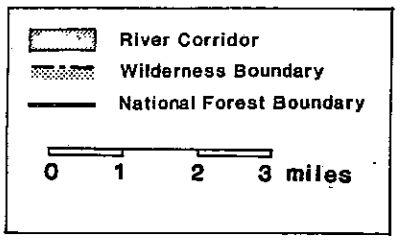
	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Dedicated Trailless	823

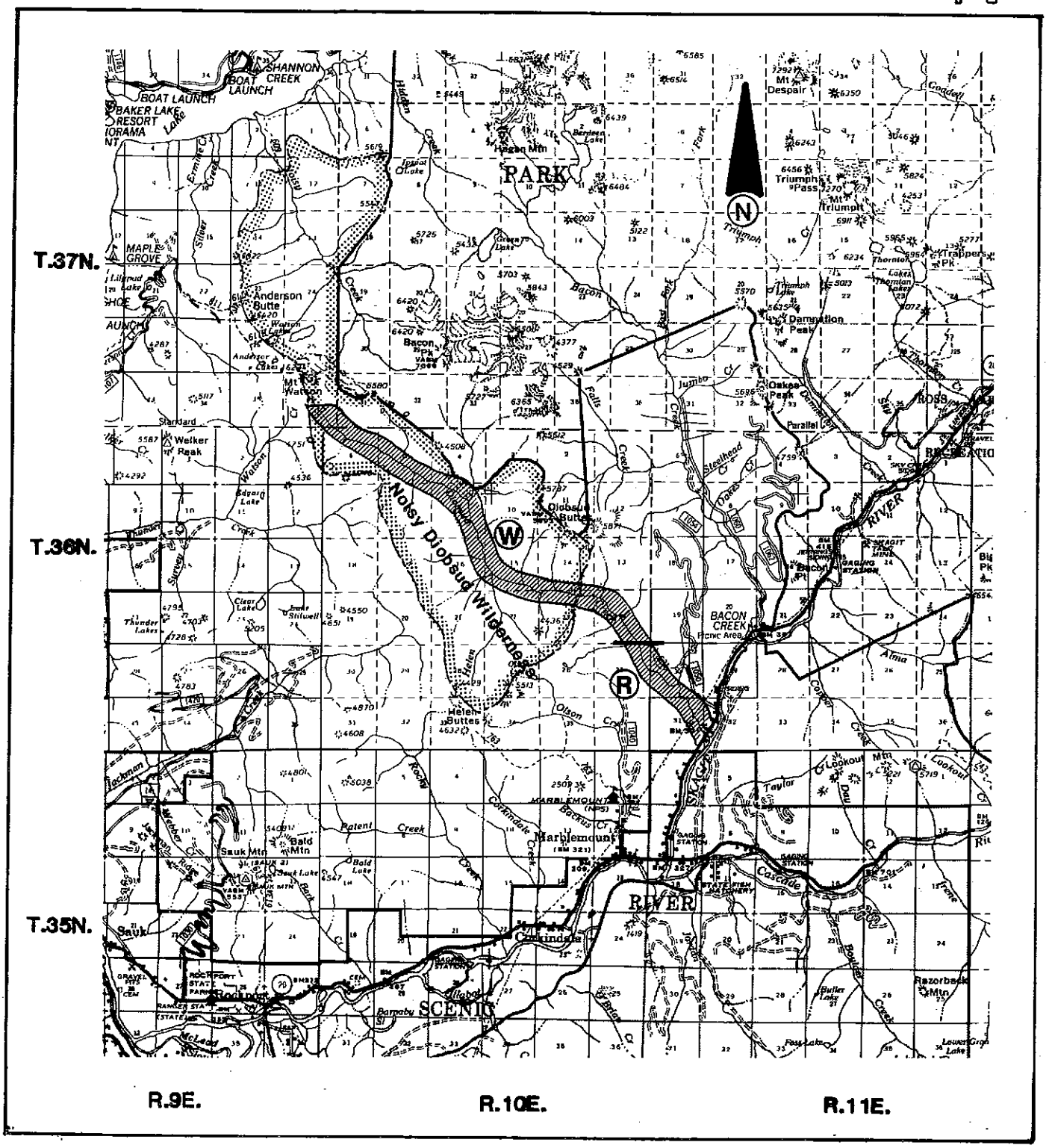
Diobsud Creek

Potential River Classification



R - Recreational
S - Scenic
W - Wild





DIOBSUD CREEK

Whatcom and Skagit Counties

Diobsud Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Mt. Watson to its confluence with the Skagit River.

Segment 1 - The headwaters on Mt. Watson in the SE 1/4 of Section 36, T.37 N., R.9E. to the south section line of Section 24, T.36 N., R.10 E. (8.3 miles).

Segment 2 - The south section line of Section 24 to the confluence with the Skagit River (2.2 miles).

RIVER MILEAGE:

Study:	10.5 miles
Eligible:	10.5 miles
Forest Plan:	10.5 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Diobsud Creek was found to possess "Outstandingly Remarkable" values for the following: recreation and wildlife.

Fishing is the most popular recreation activity along the creek, especially on the lower 2 to 4 miles. Though the amount of use is presently low, the quality of the experience is high and there is potential for additional use.

Black-tailed deer, bears, and mountain goats inhabit the upper reaches of the creek below Mt. Watson. The creek corridor contains a moderate amount of deer winter range. A SOHA is located in the middle reaches of this creek.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	8.3	Wild	8.3
Segment 2	Recreation	2.2	Recreation	2.2

SUITABILITY DETERMINATION:

Diobsud Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the lack of resource conflicts, public support, and ease of management as most of the river is within wilderness. The Forest Plan allocation of this area to nonmotorized recreation is incompatible with potential hydro-electric values. The outstandingly remarkable values present on Diobsud Creek are recreation and wildlife.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Noisy-Diobsud Wilderness - 6.0 miles)	8.3 miles	2,656 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	1.1 miles	352 acres
Private	1.1 miles	312 acres
State	0.0 miles	40 acres
Total	10.5 miles	3,360 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified as an area of critical mineral potential. A review of available literature including the Bureau of Mines MILS data, indicates the area has no known occurrences of locatable mineral resources. None of the area is encumbered by unpatented mining claims, mineral leases or mineral lease applications, and only a small portion of the area (northern one mile) is classified by the BLM as being prospectively valuable for geothermal resources. Based upon the available information, it appears that the area has a relatively low potential for the occurrence of locatable and leasable mineral resources, and no serious interest in either type of mineral resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: This river was classified as "Protected" from hydropower development by the Northwest Power Planning Council. Prior to the classification, a hydroelectric project application was submitted to FERC. Proposed facilities within the river corridor consist of a transmission line, powerhouse, diversion structure and penstock. The capacity of the project will be 4 megawatts.

There are no water impoundments.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There is one bridge where Highway 20 crosses the creek near the confluence with the Skagit.

A road parallels the creek for approximately 1 mile upstream from the Skagit. There are several primitive roads in the vicinity.

Trail #631 follows the north side of the creek for 1.5 miles.

There are no developed campgrounds.

Three homesites and two farms are found along the lower mile of the creek.

There is some agricultural development in the lower reaches.

The creek has been channelized upstream from the Highway 20 bridge on private land (Section 31, T.36 N., R.11E.)

2,000 yards of rip-rap are located along the creek at the Highway 20 bridge crossing.

A powerline crosses the creek in Section 31, T.36 N., R.11E.

An old railroad track is located in Sections 31 and 32, T.36 N., R11E.

RECREATION ACTIVITIES: The greatest recreation opportunity on Diobsud Creek is fishing, especially on the lower 2 to 4 miles. There is no rafting, canoeing, kayaking or swimming.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	300	430
Camping	10	15
Viewing (scenery, wildlife, driving for pleasure)	10	15
Misc. (hike, picnic, berry picking, etc.)	20	39
TOTAL	340	499

WILDLIFE AND FISHERIES: Black-tailed deer, bears, and mountain goats inhabit the upper reaches of the creek below Mt. Watson. The creek corridor contains a moderate amount of deer winter range. A SOHA is located adjacent to the wilderness boundary in the middle reaches of this creek.

Salmon are able to migrate upstream for only 1.5 miles, where their passage is blocked by a series of cascades. The river is heavily utilized by pink salmon and steelhead trout and has good runs of coho, summer and fall chinook.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Diobsud Creek displays excellent water quality. The creek contains several waterfalls and glaciers on the south side of Bacon Peak. Sixteen tributaries drain into Diobsud Creek.

GEOLOGY: Phyllite schist and metasediments are the most prevalent rock types in the Diobsud area. Glacial till occurs along the last mile or so prior to the confluence with the Skagit. This stream is full of boulders and has very high energy. It is rapidly downcutting and has a deep V gorge throughout most of its length. The sideslopes along the majority of the stream are very steep, rugged, and rocky with numerous deeply dissected side channels.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Diobsud Creek, although some information is available from surveys made in conjunction with Federal projects, and from published historical sources. During the historic period, the creek was within the territory of the Upper Skagit tribe. Historical research indicates that the Diobsud Creek drainage was used by the Upper Skagit during seasonal food gathering activities and there was a camp at the mouth of the creek. Although no evidence of these sites has been found, this probably reflects the lack of survey, rather than lack of use. Both the Upper Skagit and the Samish Indian tribes have identified localities withing this drainage that are used in the practice of their traditional religion.

TIMBER: Logging activity is limited along the creek to the last mile downstream.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

Total Timber Volume (MMBF)	ASQ: Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	ASQ: Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
17.0	.056	.052

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: Two small farms occur along the lower reaches of the creek.

SOCIO-ECONOMIC EFFECTS: Diobsud Creek enters the Skagit River about 3 miles east of Marblemount. Marblemount is located on the North Cascades Highway and is in close proximity to North Cascades National Park. Traditionally, the economy of the area has been closely tied to the timber industry. In recent years, tourism and recreation supplement the economic base of this small community. Ross Lake, a major recreation area, is only 25 miles to the east of Marblemount, offering visitors the opportunity to fish, boat and camp.

CURRENT ADMINISTRATION: The upper 6.0 miles of Diobsud Creek are within the Noisy-Diobsud Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This river, if designated, would become an extension of the existing designated Skagit Wild and Scenic River System.

The Skagit County Comprehensive Plan has zoned the land along Diobsud Creek, outside of federal jurisdiction, for Forestry Use.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Diobsud Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 2,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		4,500
Development Costs	0	2,000
Operation and Maintenance Costs		1,000
TOTAL - First Five Years	**$ 2,000**	**$10,500**

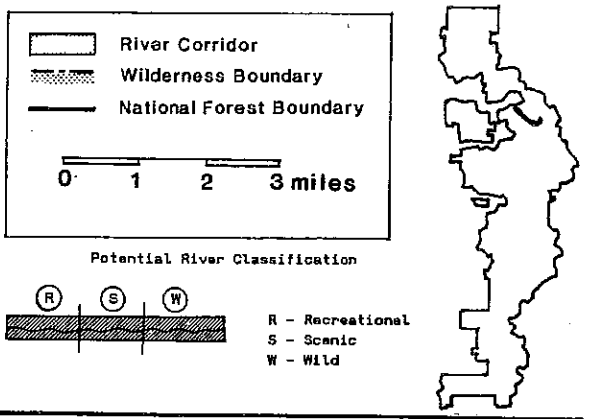
General administration and operation and maintenance costs are estimated to continue at $800 annually.

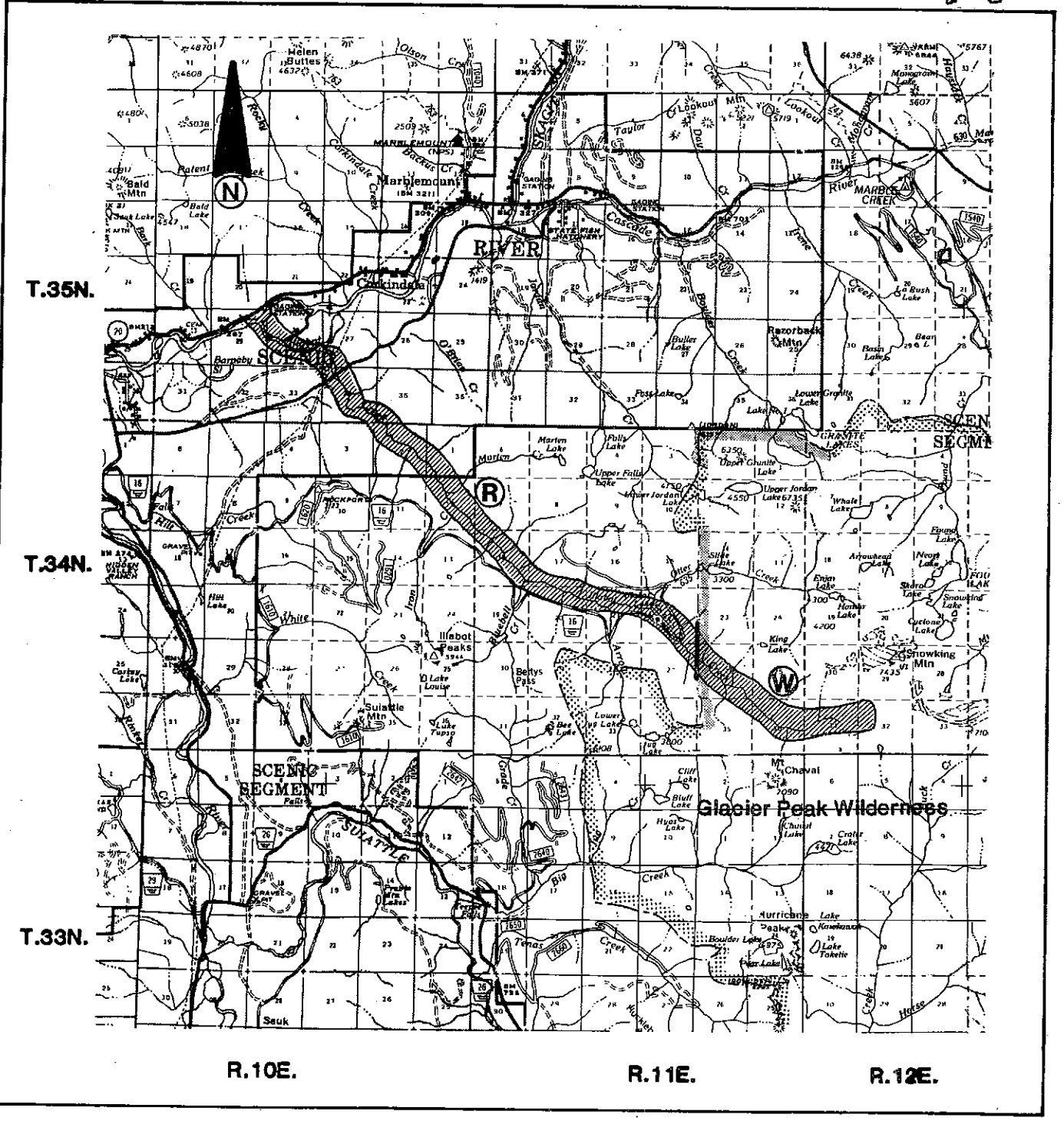
LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service).

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Primitive Recreation	527
		Wilderness-Dedicated Trailless	2,217
		Semi-Primitive, Non-Motorized Recreation	126
Segment 2	Recreation	Semi-Primitive, Non-Motorized Recreation	253
		Scenic Corridor (Middleground)	42
		Old Growth Habitat (spotted owl)	84

Illabot Creek





ILLABOT CREEK

Skagit County

Illabot Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Mt. Chaval to its confluence with the Skagit River.

Segment 1 - Headwaters in NW 1/4 of Sec. 32, T.34 N., R.12 E. to Glacier Peak Wilderness boundary (4.3 miles).

Segment 2 - Glacier Peak Wilderness boundary to confluence with Skagit River (11.0 miles).

RIVER MILEAGE:

Study:	15.3 miles
Eligible:	15.3 miles
Forest Plan:	15.3 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Illabot Creek was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

Illabot Creek is outstanding due to the overall production and species diversity of anadromous fish.

Illabot Creek provides very important habitat for bald eagles, bear, beaver, otter, black-tailed deer, Roosevelt elk, spotted owls and mountain goats. There is a bald eagle communal night roost in the river corridor.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	4.3	Wild	4.3
Segment 2	Recreation	11.0	Recreation	11.0

SUITABILITY DETERMINATION:

Illabot Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the high degree of public support for designation, Washington State Department of Fisheries interest, and outstandingly remarkable values for fisheries and wildlife. Illabot Creek is outstanding due to overall production and species diversity of anadromous fish.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Glacier Peak Wilderness - 4.3 miles)	4.3 miles	1,376 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	6.2 miles	1,984 acres
Private	4.3 miles	1,096 acres
State	0.5 miles	440 acres
Total	15.3 miles	4,896 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the area has only one reported occurrence of possibly a locatable mineral resource (graphite in Section 2, T.34 N., R.10 E.). The mineral resources of a portion of the area have been studied by the U.S.G.S. and U.S.B.M. (Church and Others, 1984), and based upon the geology of the area and their sampling, they have concluded that a large portion of this river segment has at least a low potential for the occurrence of gold-bearing quartz-vein deposits in metamorphic host rocks. BLM mining claim recordation data does indicate numerous mining claims have been located in Sections 16 and 21, T. 34 N., R.11E. However, all of those claims have either been abandoned or declared to be null and void.

None of the area is classified by the BLM as being prospectively valuable for leasable mineral resources, and none of the area has been encumbered by leases or lease applications.

Based upon the available information, it appears that this river does have at least a low potential for the occurrence of lode gold deposits. It has little, if any, potential for the occurrence of other locatable and leasable mineral resources and no serious interest in either the locatables or leasables is currently being expressed.

WATER RESOURCE DEVELOPMENT: The lower two miles of Illabot Creek contain beaver ponds.

Illabot Creek is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The road from the town of Rockport to Illabot Lake is 1/4 to 1 mile from the creek. The road crosses the creek above the lake and then loops back down the other side of Illabot Creek for 4 miles.

The Rockport-Cascade Road crosses Illabot Creek about 2 miles from its confluence with the Skagit River. A Forest Service road crosses above Illabot Lake. A private bridge crosses about 1 mile above the mouth of the river.

The land below the Rockport-Cascade Road is used for agricultural purposes. There is one farm, but no other residences, within the drainage.

There are no developed campgrounds along the creek.

There is 200 yards of rip-rap at mile post 19.9 on Rd. #16, and 500 yards on the South Skagit Highway.

Powerlines cross the creek at 1.5 miles from the confluence of Illabot Creek and the Skagit.

There is an existing timber sale at the end of Forest Road 16, downstream from Illabot Lake in T.34 N., R.11E., Section 17.

RECREATION ACTIVITIES: There is fishing from the mouth of the creek upstream 2 1/2 miles and in lakes tributary to the Illabot: Marten Lake, Jug Lake, Slide Lake and Enjar Lake.

There is mountaineering on Snowking and Mt. Chaval. The upper reaches provide opportunities for hunting, berry picking and mushroom gathering.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Waterplay (swim, wade)	10	15
Fishing, Hunting	300	432
Camping	100	150
Viewing (scenery, wildlife, driving for pleasure)	50	76
Misc. (hike, picnic, berry picking, etc.)	50	98
TOTAL	510	771

WILDLIFE AND FISHERIES: Illabot Creek provides feeding and daytime perching habitat for bald eagles and is adjacent to a known bald eagle communal night roost. This is thought to be the largest concentration of eagles in the continental U.S. In addition, there are bear, beaver, and otters. Moderate quality black-tailed deer and Roosevelt elk forage and cover extend throughout the river corridor. Mountain goat winter range is located along the upper reaches of the creek. The creek flows through the middle of a SOHA for 3 miles, three-fourths of which is in the Glacier Peak Wilderness.

Coho salmon, summer steelhead and dolly varden have been reported to swim upstream as far as Illabot Lakes. However, the best spawning habitat for chinook, coho, chum and pink salmon and steelhead is found from the mouth of the Illabot upstream for 1 1/4 miles. Chum salmon spawn mostly in Illabot Slough, at the mouth of the creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Glaciers are found near the headwaters on Snowking and Mt. Chavel, which feed the creek, causing discoloration of the water. From Illabot Lake, the creek descends through a narrow canyon with numerous cascades and falls.

The gradient in the upper end of Illabot Creek drops at the rate of 200 feet per mile and contains large boulders and rubble. The last mile is a wide channel with good gravel. The channel then splits into two with a sand bottom and little gravel. Illabot Creek contains 31 tributaries and two side channels.

GEOLOGY: The bedrock geology consists of granitic and gneissic rocks associated with large bodies of phyllite schist. Previous glaciation has carved out this U-shaped valley and left deep deposits of glacial till and lacustrine materials. Most of the valley consists of long, relatively smooth forested sideslopes blending into ridgetops dominated by rock outcrops and perennial snow patches.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Illabot Creek, and no prehistoric or historic sites are recorded. The lack of known sites is believed to reflect the lack of survey rather than use. During the historic period, Illabot Creek was within the territory of the Upper Skagit Tribe, and an important fishery was located on the creek. Both the Upper Skagit and the Samish Indian Tribes have identified localities within this this drainage that are used in the practice of their traditional religion.

TIMBER: The land between the Rockport-Cascade Road and the wilderness boundary has been used extensively for logging. The deciduous forest bordering Illabot Creek and the steep slopes of its tributaries have been heavily logged and are currently in various stages of reforestation.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	----------ASQ----------	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
71.2	1.729	1.624

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The Skagit County Comprehensive Plan (May, 1982) recommends that the Barnaby Slough area near the mouth of Illabot Creek be designated as prime agricultural land. This area is located within the creeks'floodplain. Industrial and residential development would be discouraged.

The remainder of the river's length is dominated by logging. The timber industry has been the economic mainstay of the communities in the area. However, outdoor recreation pursuits are diversifying the economies of the area. Increasing numbers of visitors are travelling to the North Cascades to take advantage of hiking, camping, boating, fishing and sightseeing opportunities.

CURRENT ADMINISTRATION: The upper five miles of the creek are within Glacier Peak Wilderness. The wilderness and other National Forest lands are administered by Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This river, if designated, would become an extension of the existing designated Skagit Wild and Scenic River System.

Most of the land along Illabot Creek, outside of federal jurisdiction, has been zoned by Skagit Country for Forestry Use. At the confluence of Illabot Creek and the Skagit River, the land is zoned Rural Use, Public Use District and Agricultural Reserve District.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Illabot Creek for the next five years:

	Expenses Expected Independent of Designation	Addit. Expenses with Designation
General Administration	$ 3,000	$ 2,000
Costs of Implementation		2,000
Development of Management Plan		13,800
TOTAL - First Five Years	**$ 3,000**	**$17,800**

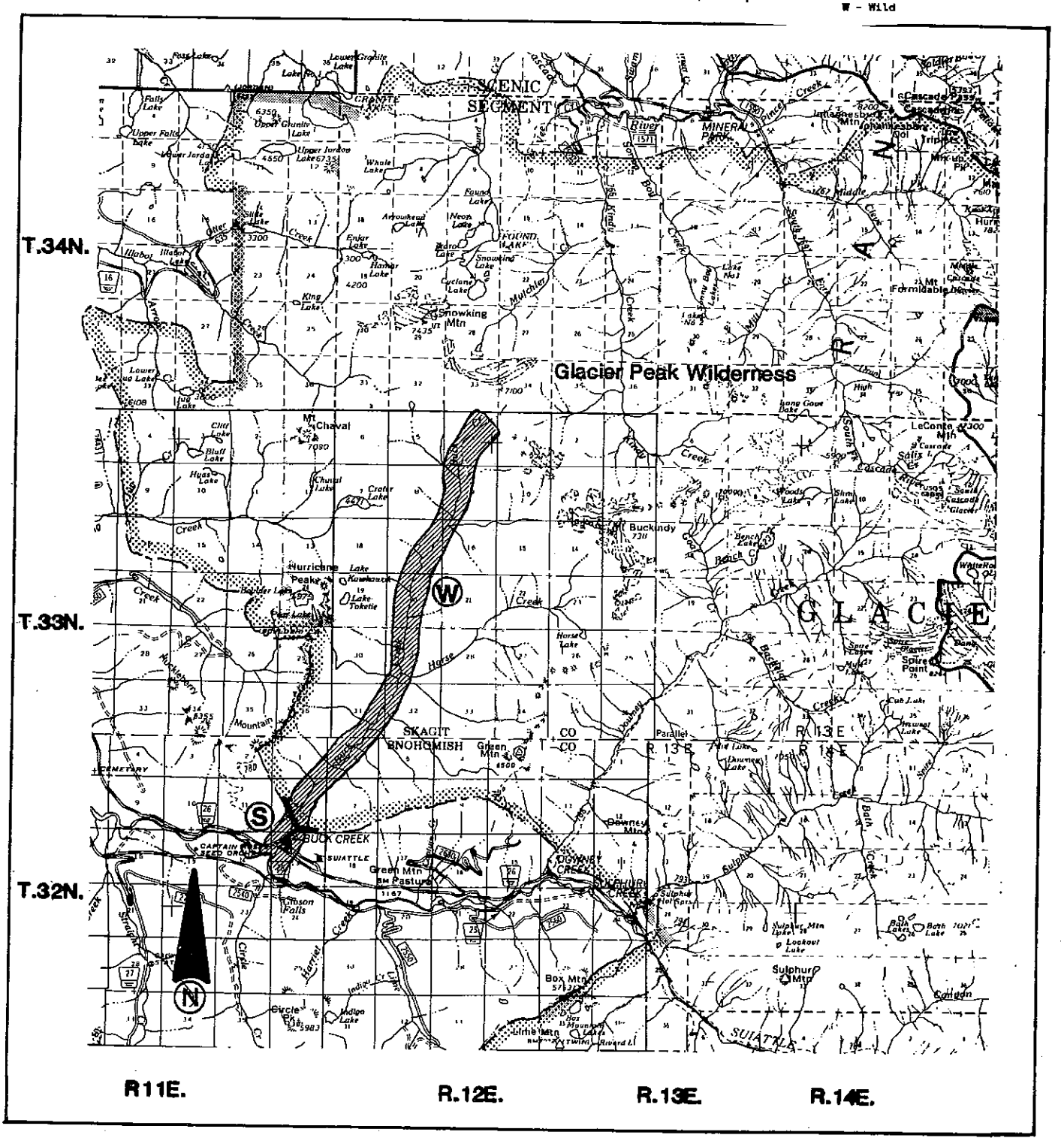
General administration and operation and maintenance costs are estimated to continue at $1,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-General Trailless	1,351
		Wilderness-Dedicated Trailless	84
Segment 2	Recreation	Semi-Primitive, Non-Motorized Recreation	126
		Deer and Elk Habitat Enhancement	1,436
		Old Growth Habitat (spotted owl)	105
		Goat Habitat	63
		Timber Management	274

Buck Creek


River Corridor
Wilderness Boundary
National Forest Boundary
0 1 2 3 miles
Potential River Classification
R
S
W
R - Recreational
S - Scenic
W - Wild
SCENIC SEGMENT
Glacier Peak Wilderness
BUCK CREEK
SKAGIT
SNOHOMISH
T.34N.
T.33N.
T.32N.
R11E.
R.12E.
R.13E.
R.14E.

BUCK CREEK

Skagit and Snohomish Counties

Buck Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Mt. Chaval to the confluence with the Suiattle River.

Segment 1 - Headwaters in NE 1/4 of Sec. 4, T.33 N., R.12 E. to Glacier Peak Wilderness boundary (10.1 miles).

Segment 2 - Glacier Peak Wilderness boundary to the confluence with the Suiattle River (1.0 mile).

RIVER MILEAGE:

Study:	11.1 miles
Eligible:	11.1 miles
Forest Plan:	11.1 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Buck Creek was found to possess "Outstandingly Remarkable" values for the following: Fisheries.

Spring chinook and coho salmon spawn in the lower reaches of the creek. There is also a population of dolly varden.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	10.1	Wild	10.1
Segment 2	Scenic	1.0	Scenic	1.0

SUITABILITY DETERMINATION:

Buck Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to lack of resource conflicts, outstanding fisheries resources, and ease of management. Ninety-one percent of this river is within wilderness.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest (Glacier Peak Wilderness - 10.1 miles)	10.1 miles	3,232 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	1.0 miles	320 acres
TOTAL	11.1 miles	3,552 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified by the BLM as an area of critical mineral potential or encumbered by unpatented mining claims. A review of available literature, including the Bureau of Mines MILS data, indicates the river has no reported locatable mineral resource occurrences. However, the area's mineral resources have been studied by the U.S.G.S. and U.S.B.M. (Church and Others, 1984). Based upon the geology of the area and their sampling, they have concluded the area does have at least a moderate potential for the occurrence of copper and molybdenum resources.

None of the area has been classified as being prospectively valuable for leasable mineral resources. However, Section 13, T.32 N., R.11 E. has been encumbered by two geothermal lease applications. Both applications have been withdrawn.

Based upon the available information, it appears that the area does have potential for the occurrence of copper and molybdenum resources. The potential for the occurrence of other locatable mineral resources and leasable mineral resources is relatively low and no serious interest in the mineral resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: The lower 1.5 miles of this river are classified as "Protected" from hydropower development by the NW Power Planning Council.

There are no water impoundments.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Campground access and dispersed recreation access roads are situated on both sides of the creek for the first 0.6 mile.

Buck Creek Campground (51 sites) is situated on both sides of the creek near the confluence with the Suiattle River.

A single lane concrete bridge spans the creek 0.3 miles upstream.

The bridge is protected by rip-rap. Also 50 feet of rip-rap protects unit #3 in the Buck Creek Campground (1988).

There are no communities or farms located on this creek.

Near the mouth, there are 4 log deflectors on the west bank (each is 2' x 55') and 32 log deflectors on the west bank side channel.

Bridge approach guard rails are planned for installation. Planned improvements in the campground include a new shelter and toilet facilities.

RECREATION ACTIVITIES: The river is not suitable for rafting, canoeing, or kayaking. It is also not suitable for swimming due to very cold water.

The lower reaches of the creek support low to moderate amounts of fishing for resident trout.

Dispersed camping is available between Road #26 and the Suiattle River.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	800	1,152
Camping	9,000	13,500
Viewing (scenery, wildlife, driving for pleasure)	50	76
Misc. (hike, picnic, berry picking, etc.)	200	392
TOTAL	10,200	15,120

WILDLIFE AND FISHERIES: Species typical of the westside of the Cascades, and associated with old-growth fauna, are found within the creek drainage.

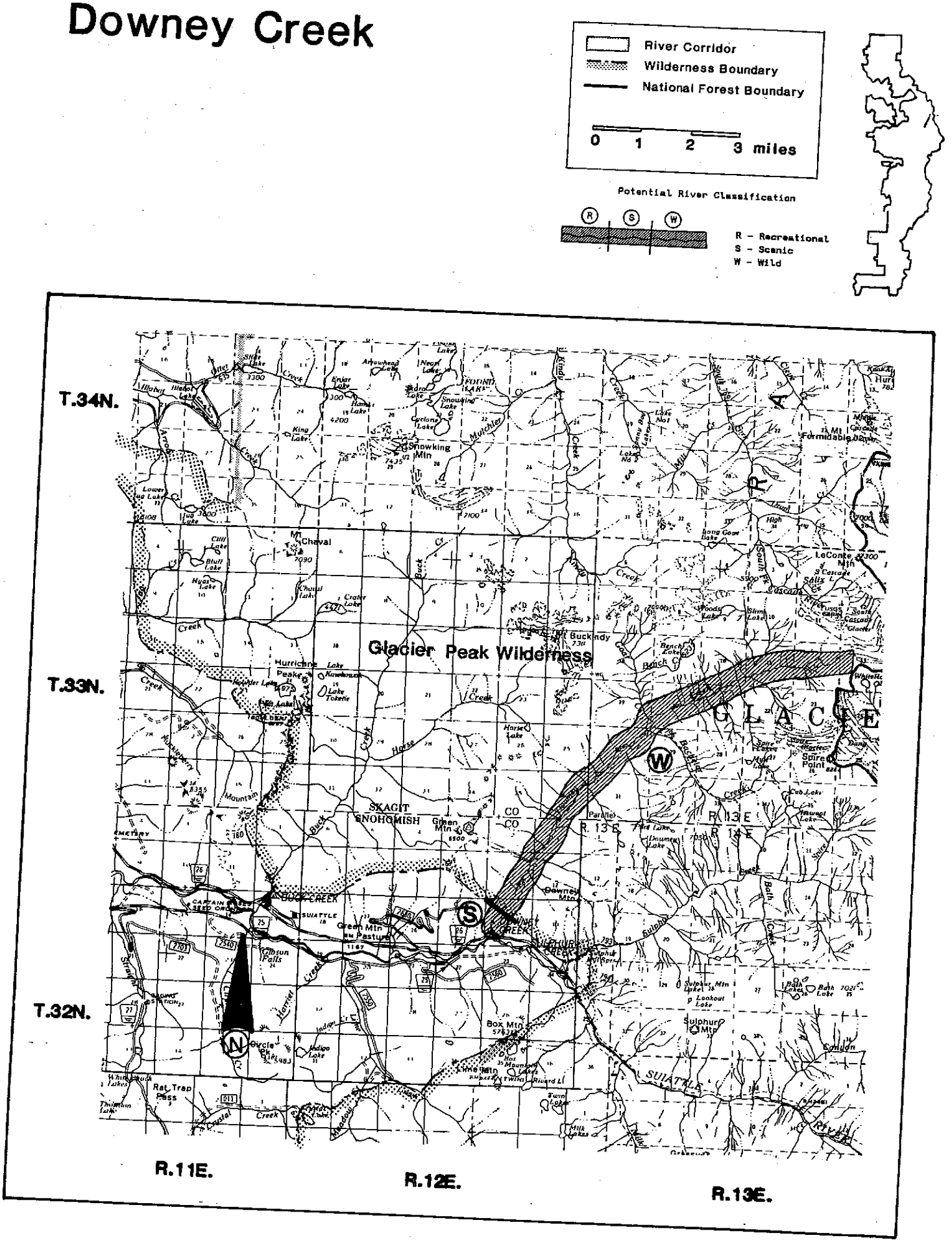
Spring chinook and coho salmon spawn from the creeks mouth upstream for 1 1/2 miles. Steep cascades block further upstream access. The best spawning occurs in the lower 1/2 mile where excellent gravel riffles are found. Dolly varden is also found throughout the creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Buck Creek has excellent water quality. It contains steep gradients with extremely steep cascades, and the stream bottom is made up of boulders, rubble and scattered patch gravel. Glaciers are common at the headwaters of Buck Creek and its twenty-eight tributaries.

GEOLOGY: Deeply weathered, incompetent, phyllite schist and greenschist comprise the lower slopes whereas the upper slopes contain more competent schist. Past glaciation has carved out the valley and left deposits of glacial till and lacustrine materials. The once predominant U-shaped valley characteristic is disappearing as the creek rapidly downcuts through the soft bedrock and forms a V-shaped valley. Landflows and other mass movements are common due to high instability. Areas adjacent to the creek are very brushy. Most of the valley consists of long, relatively smooth forested sideslopes blending into ridgetops dominated by rock outcrops and perennial snow patches.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Buck Creek. Few project surveys have been conducted and historic research is limited. The lack of known sites is believed to reflect the lack of survey of the drainage. During the historic period, the area was within the territory of the Sauk-Suiattle Indians. The mouth of Buck Creek has been reported as a historic fishing and long house site by the Sauk-Suiattle tribe. The area currently has values for traditional Indian religious practices.

Downey Creek



DOWNEY CREEK

Skagit and Snohomish Counties

Downey Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Lizard Mountain to the confluence with the Suiattle River.

Segment 1 - Headwaters on Lizard Mtn. in NW 1/4 of Sec. 13, T.33 N., R.13 E. to Glacier Peak Wilderness boundary (10.0 miles).

Segment 2 - Glacier Peak Wilderness boundary to confluence with Suiattle River (0.8 mile).

RIVER MILEAGE:

Study:	10.8 miles
Eligible:	10.8 miles
Forest Plan:	10.8 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Downey Creek was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

Downey Creek provides habitat for a diverse population of fish. The creek supports runs of spring chinook, coho salmon, summer steelhead and dolly varden.

A SOHA extends along the river inside the Glacier Peak Wilderness. Three pairs of spotted owls have been observed.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	10.0	Wild	10.0
Segment 2	Scenic	0.8	Scenic	0.8

SUITABILITY DETERMINATION:

Downey Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to lack of resource conflicts, outstanding fish and wildlife values and ease of management. Almost all of this river is within wilderness.

Appendix E
Downey Creek

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	10.0 miles	3,200 acres
(Glacier Peak Wilderness - 10.0 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.8 miles	256 acres
TOTAL	10.8 miles	3,456 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified by the BLM as areas of critical mineral potential or encumbered by unpatented mining claims. A review of available literature including the Bureau of Mines MILS data indicates the river has no reported locatable mineral resource occurrences. However, the area's mineral resources have been studied by the U.S.G.S. and U.S.B.M. (Church and Others, 1984). Based upon the geology of the area and their sampling, they have concluded the area does have at least a low potential for the occurrence of nickel, cobalt, chromium and platinum-group metal resources in magmatic segregations of mafic layered complexes.

The BLM has classified the southern two miles as being prospectively valuable (PV) for geothermal resources. However, none of the area is considered "PV" for other leasable mineral resources and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears the area does have at least a low potential for the occurrence of nickel, cobalt, chromium and platinum-group metal resources. A small portion of the area has at least a low potential for the occurrence of geothermal resources. No serious interest in either type of mineral resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: This river is classified as "Protected" from hydropower development by the NW Power Planning Council.

There are no water impoundments.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The only bridge is located where Forest Road No. 29 crosses Downey Creek at the confluence with the Suiattle River.

There is approximately 100 feet of rip-rap under the bridge on both banks.

The Downey Creek Trailhead #768 is located at the junction of the Suiattle River Road #26 and the old Downey Creek Campground now used as a dispersed site. The trail parallels the creek for 6.6 miles to Bachelor Creek.

There are no homes, farms or agricultural developments along the creek.

Guard rails are planned for installation on the bridge approaches. Also, trailhead parking and toilet facilities are proposed.

RECREATION ACTIVITIES: Fishing dominates the recreation opportunities on Downey Creek, mostly for trout. The lower reaches have a low to moderate amount of fishing use.

This creek is not suitable for rafting, canoeing, kayaking, or swimming.

Several dispersed recreation opportunities are available including hiking, camping, and big game hunting, all of which are associated with the Downey Creek trail.

Recreation Activities (in estimated Recreation Visitor Days (RVD's), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	800	1,152
Camping	1,600	2,400
Misc. (hike, picnic, berry picking, etc.)	500	980
TOTAL	2,900	4,532

WILDLIFE AND FISHERIES: A SOHA with three sighted pairs extends along the river inside the Glacier Peak Wilderness.

Downey Creek provides habitat for a diverse population of fish, particularly in the lower 0.5 miles. The creek contains good spawning and rearing habitat for spring chinook. There are also runs of coho salmon, summer steelhead and dolly varden.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The water quality of Downey Creek is excellent. Its eighteen tributaries are pristine at higher elevations. They have glaciers at their headwaters and contain numerous falls and cascades. Downey Creek has a steep gradient.

GEOLOGY: Deeply weathered, incompetent, phyllite schist and greenschist are common on lower slopes whereas the upper slopes contain more competent schist in association with granitic and gneissic rocks. Past glaciation has carved out the valley and left deposits of glacial till and lacustrine materials. The once predominant U-shaped valley characteristic is disappearing as the creek rapidly downcuts through the soft bedrock and forms a V-shaped valley. Landflows and other mass movements are common due to the high instability. Long, mostly forested sideslopes, contain numerous deep avalanche tracks. Upper slopes and ridgetops are dominated by rock outcrops, meadows, and perennial snow fields.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Downy Creek. Few project surveys have been done and historic research is limited. The lack of sites is believed to reflect lack of survey in the drainage. During historic times, the area was within the territory of the Sauk-Suiattle Indians. The mouth of Downy Creek was reportedly a historic fishing site for the Sauk-Suiattle tribe. The area currently has value to local Indians for gathering materials used in their traditional religious practices.

TIMBER: Salvage logging occurs in and adjacent to the Downey Creek Campground.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
9.2	.302	.286

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: Downey Creek lies almost entirely within the Glacier Peak Wilderness. The creek enters the Suiattle River near a forest road system approximately 25 miles from Darrington. Darrington is a community traditionally and presently dependent on logging and the forest products industry. Located on the Mountain Loop Highway in an area noted for its scenery and recreation opportunities, Darrington also benefits economically from the many visitors to the area.

CURRENT ADMINISTRATION: The mouth of this creek flows into the Suiattle River which is a part of the Skagit Wild and Scenic River System. The remainder of the creek is within the Glacier Peak Wilderness. The whole creek is administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Downey Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 1,000	$ 1,000
Costs of Implementation		1,000
Development of Management Plan		4,600
Development Costs	51,000	
Operation and Maintenance Costs	15,000	0
Total - First Five Years	**$67,000**	**$ 6,600**

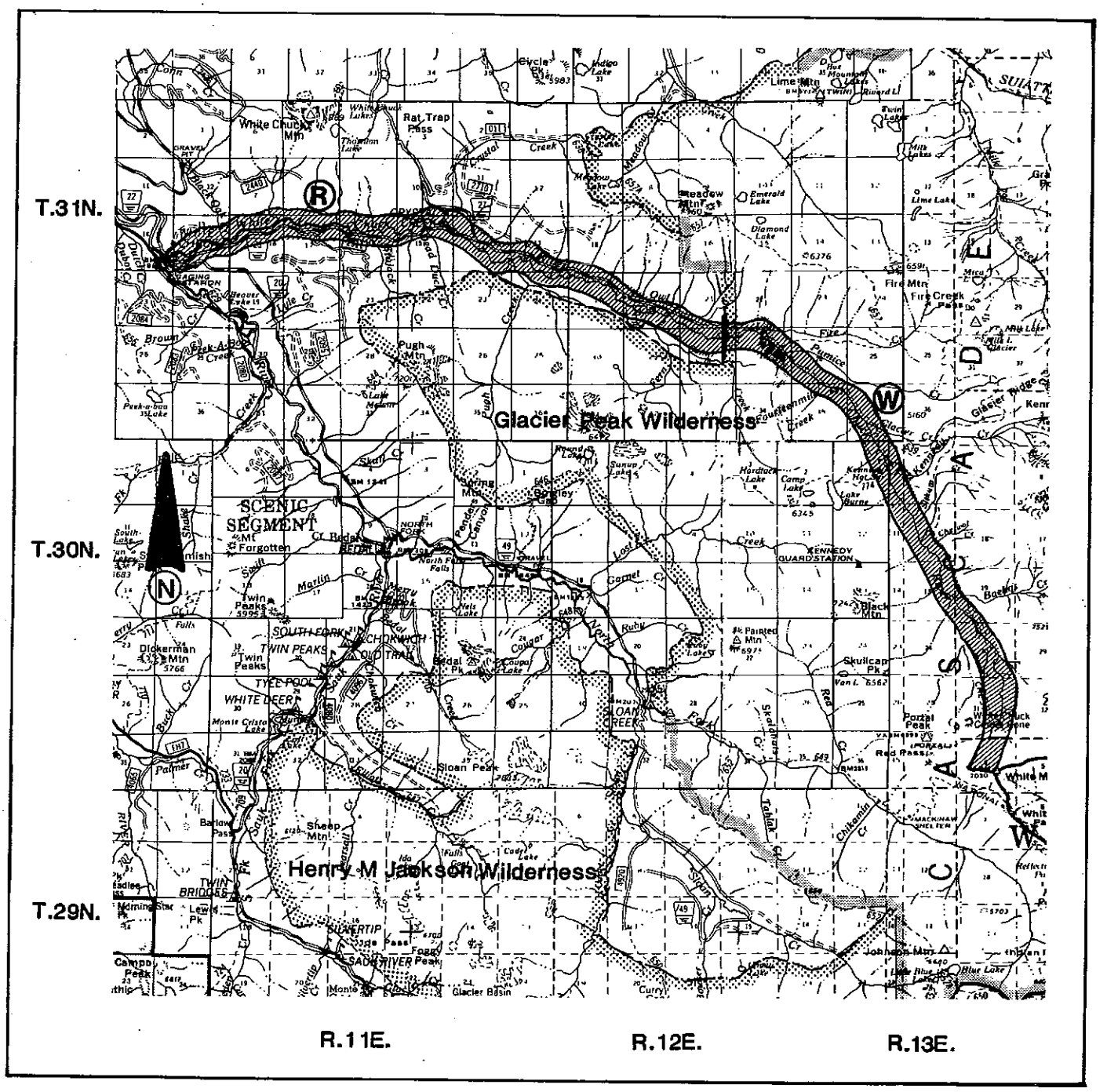
General administration and operation and maintenance costs are estimated to continue at $3,400 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Trailled	908
		Wilderness-General Trailless	2,238
		Wilderness-Dedicated Trailless	844
Segment 2	Scenic	Old Growth Habitat (spotted owl)	21
		Timber Management	42

White Chuck River



WHITE CHUCK RIVER

Snohomish County

The White Chuck River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters in rugged mountainous country between White Chuck Mountain and Meadow Mountain to its confluence with the Sauk River.

Segment 1 - Headwaters in NW 1/4 of Sec. 6., T.29 N., R.14 E. to Glacier Peak Wilderness boundary (10.5 miles).

Segment 2 - Glacier Peak Wilderness boundary to confluence with Sauk River (12.0 miles).

RIVER MILEAGE:

Study:	22.5 miles
Eligible:	22.5 miles
Forest Plan:	22.5 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The White Chuck River was found to possess "Outstandingly Remarkable" values for the following: Scenic, Recreation, Fisheries and Wildlife.

The White Chuck River and its tributaries flow through rugged mountainous terrain and contain numerous cascades and falls.

There are abundant camping and hiking opportunities throughout the river corridor. Trails parallel the river for its entire length. Kennedy Hot Springs is a very popular hiking destination. Canoeing and kayaking potential exists from 6 miles upstream to the mouth of the river for experienced boaters looking for challenging hydraulics.

A SOHA exists within the river corridor.

The river provides habitat for spring chinook and coho salmon, dolly varden and resident rainbow trout.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	10.5	Wild	10.5
Segment 2	Recreation	12.0	Recreation	12.0

SUITABILITY DETERMINATION:

The White Chuck River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to high public interest and high number of outstandingly remarkable features. The White Chuck possessed remarkable values for scenery, recreation, fisheries and wildlife. The travel corridor up this drainage is allocated for scenic protection in the preferred alternative, and contains an abundance of recreational opportunities.

LANDOWNERSHIP:

Segment 1	**River Miles**	**Corridor Acres**
Mt. Baker-Snoqualmie National Forest (Glacier Peak Wilderness - 10.5 miles)	10.5 miles	3,360 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	12.0 miles	3,840 acres
Total	22.5 miles	7,200 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither of the river segments are classified by the BLM as areas of critical mineral potential or are encumbered by unpatented mining claims. A review of available literature, including Bureau of Mines MILS data, indicates the river has no reported locatable mineral resource occurrences of significance. However, the area's mineral resources have been studied by the U.S.G.S. and U.S.B.M. (Church and Others, 1984). Based upon the geology of the area and their sampling, they have concluded that the area does have at least a low potential for the occurrence of hot springs precious metal deposits.

The BLM has classified the entire river as being prospectively valuable for geothermal resources. Kennedy Hot Springs is found in Section 1, T.30 N., R.12 E. However, none of the area appears to have potential for the occurrence of other leasable mineral resources and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the area does have at least a low potential for the occurrence of precious metal resources and geothermal resources. No serious interest in either type of mineral resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on the river.

The White Chuck River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Forest Road 23 crosses the White Chuck River near the confluence with the Sauk River. A Forest Service road parallels the river for 11.5 miles upstream, crossing the river 6 miles upstream.

On the north side, forest trail No. 731 parallels the river from the junction of the Sauk River upstream for 6 miles.

In addition to the Forest Service road crossings, an abandoned structure spans the river at river mile 4.0.

There are no homes or farms located within the drainage.

White Chuck Campground is located at the confluence of the White Chuck and Sauk Rivers.

The White Chuck Trailhead #643 is located at the end of the White Chuck Road #23. The trail parallels the river to Kennedy Hot Springs, a popular hot springs. Hikers can gain access to the Pacific Crest Trail near Kennedy Creek. The Pacific Crest Trail follows the White Chuck River drainage upstream for approximately 5 miles, where it crosses the river's headwaters.

RECREATION ACTIVITIES: There is camping and hiking associated with the area trails. Trails parallel the river for its entire length. Kennedy Hot Springs is a popular hiking destination.

Fishing is generally poor due to suspended glacial sediment during the summer. Fall fishing season results in higher use.

Rafting is considered to be unsuitable on the river.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	400	660
Waterplay (swim, wade)	100	150
Fishing, Hunting	300	432
Camping	13,000	19,500
Viewing (scenery, wildlife, driving for pleasure)	100	152
Misc. (hike, picnic, berry picking, etc.) berry picking, etc.)	26,000	50,960
TOTAL	39,900	71,854

WILDLIFE AND FISHERIES: Mineral seeps near Kennedy Hot Springs attract big game animals to the surrounding vegetation. A SOHA with 3 sighted pair extends along the river corridor within the Wilderness boundary.

The White Chuck River contains spawning habitat for spring chinook and coho salmon. Dolly varden and resident rainbow trout are also found. There are major limiting factors to increased fish production. The fast runoff of snow melt creates flooding conditions. The small gravel substrate is washed away, leaving behind only boulders and coarse material. Cold water conditions in the upper watershed tend to retard fish growth and reduce the abundance of food organisms.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Beginning 2 miles above the confluence with the Sauk River, the river valley is confined and becomes progressively narrower upstream. It creates steep gradients, dropping over 100 feet per mile. The bottom of the river is composed of rubble and boulders with only scattered fish spawning areas. There are extensive glacier systems on nearby Glacier Peak. The tributaries, which are precipitous and pristine in nature, contain many cascades and falls. Thirty-five tributaries flow into the White Chuck River.

GEOLOGY: Originating within the pumice deposits and volcanic flows on the flanks of Glacier Peak, this river passes through bedrock dominated by gneiss and granite and then through metasediments and schist. Although the valley has had a strong glacial influence, the traditional glacial U-shape is only dominate in the lower part of the valley. This is because post glacial volcanic activity from Glacier Peak has filled in the upper part of the valley and subsequent river downcutting has formed a steep aided V drainage. Landslides are common on the unstable volcanic material on these inner gorge sidewalls.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the White Chuck River, however, information is available from some project surveys. There is scant evidence of prehistoric use; the lack of sites is believed to represent survey patterns rather than lack of use. Historically, the river was within the territory of the Sauk-Suiattle Tribe. Localities used by the Sauk-Suiattle in the practice of their traditional religion exist within the proposed corridor.

Historic sites represent logging and Forest Service administration. The Sauk River Logging Company operated in the area from the 1920's to the 1950's. Railroad tracks extended a couple of miles up the White Chuck. None of the sites known on the White Chuck is listed on the National Register of Historic Places. Kennedy Hot Springs cabin, a Forest Service administrative structure built in 1924, may be determined eligible for the historic register after an evaluation is completed.

TIMBER: Approximately 50 years ago, the lower 5 miles of the river were extensively logged using railroads. Logging is still common on both sides of the river to Dead Duck Creek and on the north side of the river to the Wilderness boundary.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
105.3	2.787	2.674

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The White Chuck River enters the Sauk River about 10 miles southeast of Darrington (pop. 1020). Darrington is a community traditionally and presently dependent on logging and the forest products industry for its support. Located on the Mountain Loop Highway and in an area noted for its scenery and recreation opportunities, Darrington also benefits economically from the many visitors to the area.

CURRENT ADMINISTRATION: From its headwaters downstream 10.5 miles, the White Chuck River flows through the Glacier Peak Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This river if designated would become an extension of the existing designated Skagit Wild and Scenic River System.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the White Chuck River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 7,500	$ 1,000
Costs of Implementation		3,000
Development of Management Plan		17,200
Development Costs	40,000	
Operation and Maintenance Costs	34,000	1,000
Total - First Five Years	**$81,500**	**$22,200**

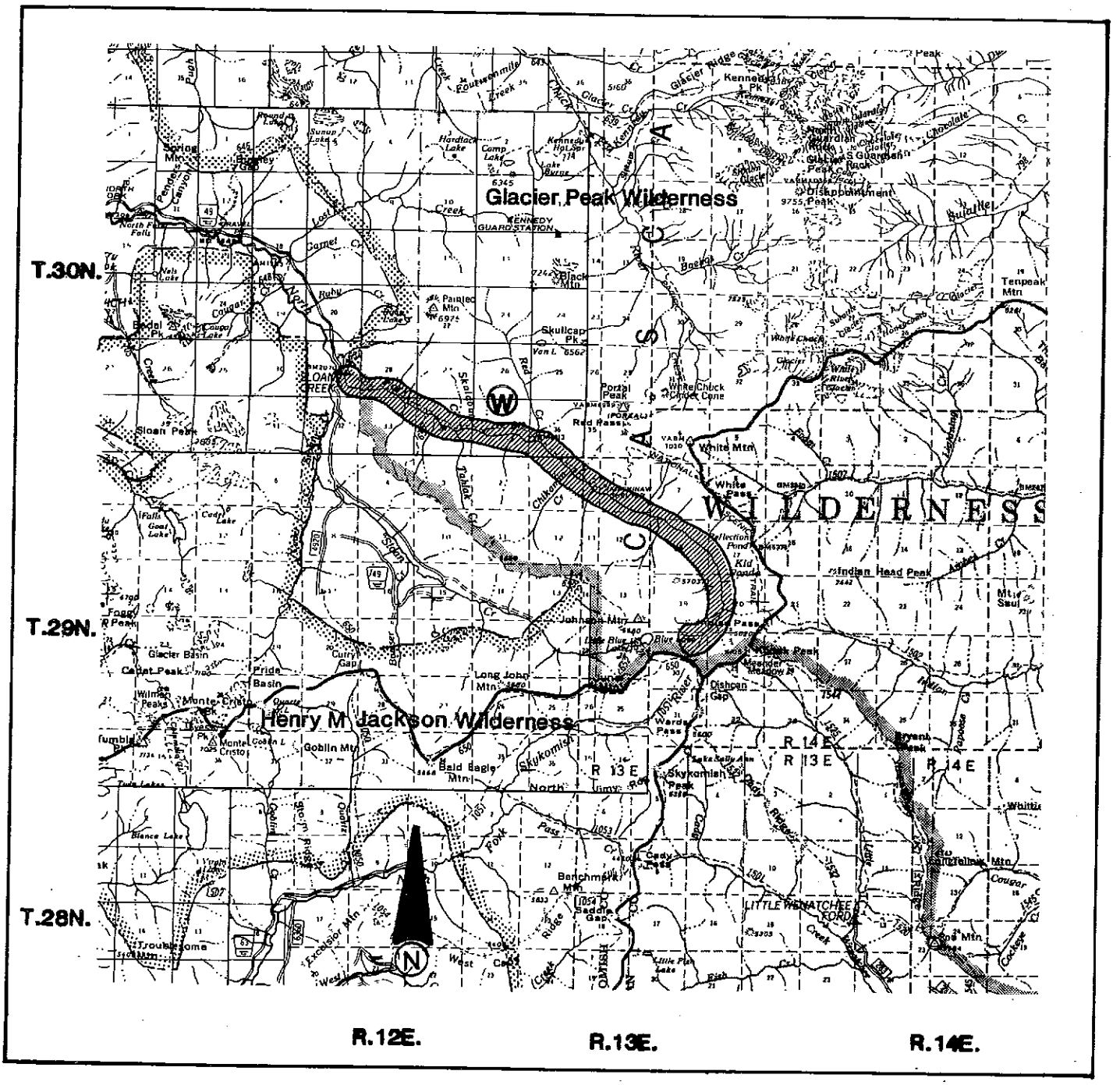
General administration and operation and maintenance costs are estimated to continue at $22,200 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	549
		Wilderness-Trailed	739
		Wilderness-General Trailless	591
		Wilderness-Dedicated Trailless	1,964
Segment 2	Recreation	Semi-Primitive, Non-Motorized Recreation	295
		Scenic Corridor (Foreground)	2,534
		Scenic Corridor (Middleground)	612
		Old Growth Habitat (spotted owl)	21
		Martin/pileated woodpecker habitat	21
		Goat Habitat	63
		Timber Management	147

North Fork Sauk River Extension



NORTH FORK SAUK RIVER

Snohomish County

The North Fork Sauk River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: The North Fork Sauk River Extension originates on Kodak Peak and flows westward ending at the Glacier Peak Wilderness boundary where it flows into the congressionally designated Wild and Scenic River.

Segment 1 - Headwaters in SW 1/4 of Sec. 19, T.29 N., R.14 E. to the boundary of the designated Wild and Scenic Skagit River in SE 1/4 of Sec. 29, T.30 N., R.12 E. (Glacier Peak Wilderness boundary) (9.2 miles).

RIVER MILEAGE:

Study:	9.2 miles
Eligible:	9.2 miles
Forest Plan:	9.2 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The North Fork Sauk River was found to possess "Outstandingly Remarkable" values for the following: Wildlife.

The North Fork Sauk River area provides an extensive winter range for black-tailed deer and mountain goat. A SOHA exists within Glacier Peak Wilderness.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	9.2	Wild	9.2

SUITABILITY DETERMINATION:

The North Fork Sauk River extension was found to be suitable for inclusion in the preferred alternative of the Forest Plan. The river is located entirely within the Glacier Peak Wilderness and is a logical extension of the existing Wild and Scenic River.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Glacier Peak Wilderness - 9.2 miles)	9.2 miles	2,944 acres
TOTAL	9.2 miles	2,944 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified by the BLM as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the river has no reported locatable mineral resource occurrences of significance. However, Section 30, T.29 N., R.13 E. is encumbered by 4 unpatented mining claims. Based upon a U.S.G.S and U.S.B.M.'s mineral resource evaluation (Church and Others, 1984), it has been concluded that portions of the area does have a low potential for the occurrence of precious metal resources in hot spring type deposits, a low to moderate potential for the occurrence of base metal resources in several areas, and a moderate potential for disseminated porphyry base metal deposits.

The BLM has classified the entire river segment as being prospectively valuable for geothermal resources. However, it is not considered to have potential for the occurrence of other leasable mineral resources. None of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the area does have potential for the occurrence of base metal resources, precious metal resources and geothermal resources. Except for the four unpatented mining claims, no serious interest in either the locatable or leasable mineral resource potential of the area is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Forest Service Road No. 49 crosses the North Fork Sauk near the Sloan Creek confluence. A concrete bridge with approach guardrails is planned for this crossing.

The old Sloan Creek Campground road parallels the river for 0.25 miles.

The old site of Sloan Creek Campground now serves as a trailhead facility for horse and other Wilderness user's entry.

The North Fork Sauk Trail #649 begins at Sloan Creek. The trail parallels the North Fork for several miles before heading uphill to White Mountain and the junction with the Pacific Crest Trail.

The Sloan Peak Trailhead #648 is also located in the old Sloan Creek Campground. The trail crosses the North Fork Sauk. There is no footbridge; the river must be forded during periods of low water.

The Pilot Ridge Trail #652 is accessed 2 miles up the North Fork Sauk Trail. The Pilot Ridge Trail crosses the North Fork via a footlog before ascending Pilot Ridge.

Trail reconstruction, trailhead parking and a shelter reconstruction are proposed for development.

There are no homes, farms, or agricultural development.

RECREATION ACTIVITIES: There is little opportunity for rafting, canoeing, kayaking or swimming on the North Fork Sauk River Extension. There is high native trout fishing use on the lower reaches.

Dispersed recreation opportunities include hiking, horseback riding, hunting and camping.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	20	30
Camping	11,800	17,700
Viewing (scenery, wildlife driving for pleasure)	9,000	13,680
Misc. (hike, picnic, berry picking, etc.)	11,900	23,325
TOTAL	32,720	54,735

WILDLIFE AND FISHERIES: The North Fork Sauk River area provides an extensive winter range for black-tailed deer and mountain goat. A SOHA exists within Glacier Peak Wilderness.

There are no anadromous fish found on the North Fork Sauk Extension. The North Fork Falls, below the beginning of the river extension, acts as a total barrier to fish migration upstream. Native rainbow and cutthroat trout are found in the river's waters.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The water quality of the river is excellent. Small glaciers are found on the headwaters of the tributary streams. The river and its tributaries are filled with many cascades and falls.

The upper watershed contains steep gradients, dropping 100 feet per mile and lies in a valley which becomes narrower downstream. The bottom composition is rubble and boulders with only scattered fish spawning areas.

Fifteen tributaries drain into the North Fork Sauk River Extension.

GEOLOGY: Granite, granodiorite, hornblende gneiss, and associated rock types comprise the bedrock of the rugged topography in this area. Past glaciation has carved out the valley and left deposits of glacial till and lacustrine materials in this mostly U-shaped valley. Lower sideslopes, dominated by stringers of conifers and brushy avalanche tracks, merge into long steep and barren upper sideslopes where patches of snow often last through summer.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the North Fork Sauk River proposed Wild and Scenic River corridor. No prehistoric sites are known, however, the lack of sites is thought to reflect lack of survey of the drainage rather than lack of use. During the historic period, the North Fork Sauk was within the territory of the Sauk-Suiattle Tribe. An Indian trail that followed the North Fork to the upland meadows was documented in 1870. Localities used by the Sauk-Suiattle for traditional religious practices exist within the proposed corridor.

Known sites represent logging history and Forest Service administration. Logging railroads were built up the North Fork Sauk during the 1920's to 1950's. In the 1920's, Forest Service trail and telephone maintenance crews built two trail shelters along the river as part of the fire detection and suppression system. Both of these are still standing. Of the known historic sites, the Mackinaw trail shelter has been determined eligible for listing on the National Register of Historic Places.

TIMBER: The entire segment is within the Glacier Peak Wilderness, thus it is not available for logging.

LIVESTOCK GRAZING: There is occasional sheep grazing along the headwater divide, and recreation livestock grazing adjacent to the North Fork Sauk and Pacific Crest Trail.

SOCIO-ECONOMIC EFFECTS: The North Fork Sauk River enters the Sauk River about 10 miles SE of Darrington (pop. 1020). Timber has long been a vital component of Darrington's economy. The community is dependent on the periodic fluctuations of the timber industry. However, Darrington also serves as a primary gateway into the North Cascades. Located on the Mountain Loop Highway and in an area noted for its scenery and recreation opportunities, Darrington also benefits economically from the many visitors to the area.

CURRENT ADMINISTRATION: The river flows entirely within the Glacier Peak Wilderness. The wilderness is administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This portion of the North Fork, if designated, would become an extension of the existing designated Skagit Wild and Scenic River System.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the North Fork Sauk River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 500	
Costs of Implementation		200
Development of Management Plan		3,400
Development Costs	80,000	
Operation and Maintenance Costs	1,000	
TOTAL - First Five Years	**$81,500**	**$3,600**

General administration and operation and maintenance costs are estimated to continue at $300 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	654
		Wilderness-Trailled	84
		Wilderness-General Trailless	42
		Wilderness-Dedicated Trailless	2,365

SOUTH FORK SAUK RIVER

Snohomish County

The South Fork Sauk River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Monte Cristo Peak to its confluence with Elliot Creek. Downstream from Elliot Creek, the river is already designated under the Skagit Wild and Scenic River System.

Segment 1 - Headwaters in SE 1/4 of Sec. 28, T.29 N., R.11 E. to Henry M. Jackson Wilderness boundary (1.0 mile).

Segment 2 - Henry M. Jackson Wilderness boundary to confluence with Elliot Creek (to existing W & SR designation) (7.4 miles).

RIVER MILEAGE:

Study:	8.4	miles
Eligible:	8.4	miles
Forest Plan:	0.0	miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The South Fork Sauk River was found to possess "Outstandingly Remarkable" values for the following: Scenic and Wildlife.

The South Fork Sauk River lies between Bedal Peak and Sheep Mountain on the east shore and between Twin Peaks and Lewis Peak on the west shore. Views of these rugged mountain peaks are dramatic.

The area serves as a high quality winter range for black-tailed deer as well as a good riparian habitat area.

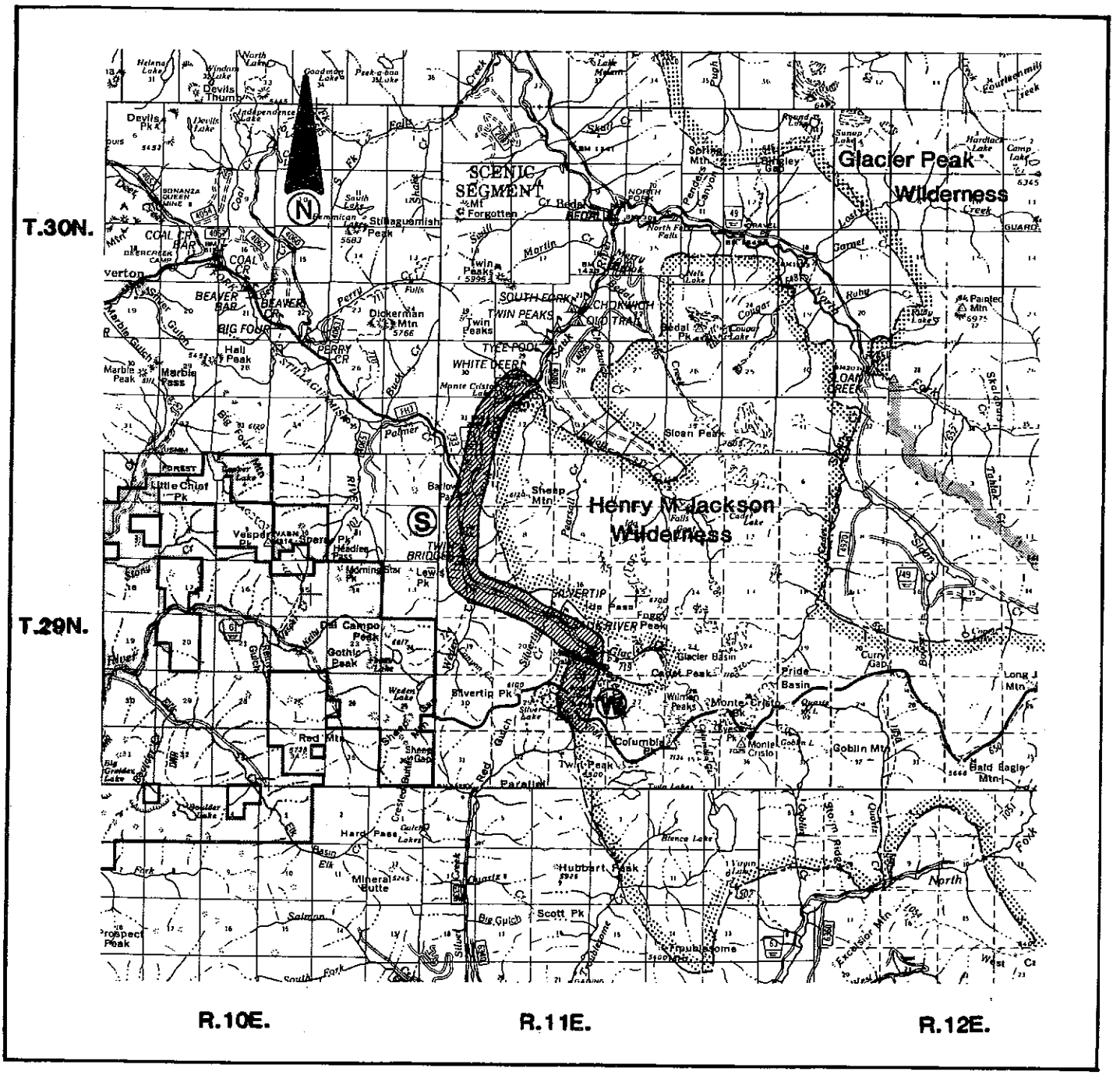
POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	1.0	None recommended	0
Segment 2	Scenic	7.4	None recommended	0

SUITABILITY DETERMINATION:

The South Fork of the Sauk extension was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to low public interest, high competing resource values in timber and mining, and the lack of anadromous fisheries.

South Fork Sauk River Extension



LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	0.9 miles	288 acres
(Henry M. Jackson Wilderness - 1.0 mile)		
Private	0.1 miles	32 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	7.2 miles	2,304 acres
Private	0.2 miles	64 acres
TOTAL	8.4 miles	2,688 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither of the river segments are classified by the BLM as areas of critical mineral potential. However, a review of available literature, including the Bureau of Mines MILS data, indicates numerous reported prospects for gold resources occur along the river and 168 unpatented mining claims have been located on or adjacent to the river. Of these claims, 41 have either been abandoned or declared to be null and void. The majority of the remaining 127 claims lie in Sections 20, 21, 22, 23, 26, and 27, T.29 N., R.11 E. The U.S.G.S. and U.S.B.M. (S.E. Church and Others, 1983) have evaluated the mineral resources of at least part of the area. Based upon the available information, the geology of the area and the results of their sampling they have concluded that:

> The upper end of the segment (Silver Creek and above) lies within an area that has "proven" reserves of base and precious metal resources, and it lies within a geologic terrain which has a high potential for additional precious and base metal mineral resources.

The BLM has classified the entire river as being prospectively valuable for geothermal resources, and one mile of the river is classified prospectively valuable for coal resources. However, the area is not considered to have potential for the occurrence of other leasable mineral resources, and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it does appear a large portion of the river has a moderate to high potential for the occurrence of both precious metal and base metal mineral resources. A serious interest in these resources is currently being expressed. The river also has at least a low potential for the occurrence of geothermal resources. However, no serious interest in these resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: The river is classified as "Protected" from hydropower development by the NW Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The Mountain Loop Highway follows the South Fork Sauk upstream from Elliott Creek and continues 3 miles to Barlow Pass. From the pass, a county road parallels the river to the Monte Cristo townsite. The road is closed to public vehicle traffic, but is well used by hikers. The road encroaches on the channel and immediate river banks at several points along the river.

There are plans to pave and widen the Mountain Loop Highway from Barlow Pass to the White Chuck River junction.

A concrete bridge spans the river at Mowich on the Mountain Loop Highway, a severely damaged wooden structure spans the river at Twin Bridges, and a substandard wooden structure spans the river near Monte Cristo on the county road.

There is 100 feet of rip-rap on both banks of the bridge in Section 6, T.29 N., R.11 E.

On private land, on and adjacent to the Monte Cristo townsite, there are several summer homes and restored mining structures.

The Poodledog Pass Trail #708 begins at the Monte Cristo townsite. The trail follows the river to the divide between the South Fork Sauk and Silver Creek drainages, before ending at Silver and Twin Lakes.

The Weden Creek Trailhead #724 is located along the Monte Cristo Road past Twin Bridges Camp. The trail crosses the South Fork Sauk before heading uphill to Foggy Lake.

The only developed campground is found at Monte Cristo, with a 40-person capacity.

Additional developed view points, trailhead parking and trails are planned.

RECREATION ACTIVITIES: Resident rainbow trout, steelhead and dolly varden are caught on the South Fork Sauk.

The Monte Cristo area is a popular destination hike as well as a gateway to the Henry M. Jackson Wilderness.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	100	144
Camping	8,300	12,450
Viewing (scenery, wildlife, driving for pleasure)	3,400	5,168
Misc. (hike, picnic, berry picking, etc.)	2,800	5,488
TOTAL	14,600	23,250

WILDLIFE AND FISHERIES: The area serves as a high quality winter range for black-tailed deer and mountain goat. The area around Monte Cristo Lake is an important wetland habitat.

Due to the river's extreme flows, cold water conditions and boulder-filled bottom, only scattered fish spawning areas are found. Spring chinook have been reported as far upstream as Barlow Pass. However, most spawning is in the lower 1/2 mile of the river. Pink salmon also spawn in the lower reaches. Resident trout, dolly varden and mountain whitefish are found along the length of the river.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The South Fork Sauk River contains steep gradients, dropping over 100 feet per mile. The bottom of the riverbed is composed of rubble and boulders. Thirteen tributaries flow into the South Fork Sauk River above Elliot Creek.

GEOLOGY: The bedrock geology consists of granitic and gneissic rocks associated with local extrusive igneous rocks of andesite and diabase flows. This high energy stream is relatively wide, braided and flows through a U-shaped glacial valley. Surrounding mountains rise thousands of feet above the valley floor. Sparsely forested lower slopes merge into massive barren rock capped by perennial snow and ice. Snow and debris tracks are numerous on these long steep sideslopes.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the South Fork Sauk River. However, some information is available from project surveys and historical research. No prehistoric sites have been documented, but literature research indicates that Indians used this area during the historic period. A known prehistoric site near the headwaters of the North Fork indicates use of the drainage as a travel corridor.

The drainage was within the territory of the Sauk-Suiattle tribe during the historic period. Today, localities important in the practice of their traditional religion exist within the proposed corridor.

Most of the documented history of the South Fork Sauk relates to the development of the Monte Cristo Mining District. Minerals, principally silver, were discovered at Monte Cristo in 1889, and within a couple of years, several claims had been made. A tote road was built, and in 1893, the Everett to Monte Cristo Railroad was completed. This was the only railroad in the state to be constructed solely for the purposes of mining. The railroad and the town of Monte Cristo were abandoned in 1898. Interest in the mines and railroad was intermittent through the next 30 years. At the onset of the Depression era, a flood closed the railroad for the last time, but small scale mining interests continue today. Historic sites and features associated with the mining history of the drainage may be determined eligible for the National Register of Historic Places after an evaluation is completed, however, no sites are currently listed on the register.

TIMBER: In the past, private lands have been logged. The Forest Service has performed patch cutting and salvage logging adjacent to the area roads.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only.

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
30.9	.762	.760

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The South Fork of the Sauk River enters the Sauk River about 15 miles southeast of Darrington (pop. 1020). Darrington is a community traditionally and presently dependent on logging and the forest products industry for its economic survival. Located on the Mountain Loop Highway and in an area noted for its scenery and recreation opportunities, Darrington also benefits economically from the many visitors to the area.

CURRENT ADMINISTRATION: With the exception of small parcels of private land, the South Fork Sauk is entirely administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. The river if designated would become an extension of the existing designated Skagit Wild and Scenic River System.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the South Fork Sauk River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 10,000	$ 2,000
Costs of Implementation		3,000
Development of Management Plan		8,600
Development Costs	56,000	10,000
Operation and Maintenance Costs	16,800	4,000
TOTAL - First Five Years	**$ 82,800**	**$ 27,600**

General administration and operation and maintenance costs are estimated to continue at $6,560 annually.

NORTH FORK STILLAGUAMISH RIVER

Skagit and Snohomish Counties

The North Fork Stillaguamish River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The North Fork Stillaguamish River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From its headwaters on Rinker Ridge downstream to its confluence with the South Fork Stillaguamish River, near the town of Arlington.

Segment 1 - Headwaters in SE 1/4 of Sec. 17, T.34 N., R.9 E. to the confluence with the South Fork Stillaguamish

RIVER MILEAGE:

Study:	49.8 miles
Eligible:	49.8 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The North Fork Stillaguamish River was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

Nearly all gravel areas above Rollins Creek, located near community of Hazel, are suitable for the spawning and rearing of chinook, pink, chum and some coho salmon. The lower six miles of the river contains excellent spawning, holding and rearing habitat for adult salmon.

The North Fork Stillaguamish River corridor has an excellent winter range for black-tailed deer. It also provides excellent riparian, furbearer, and elk habitat.

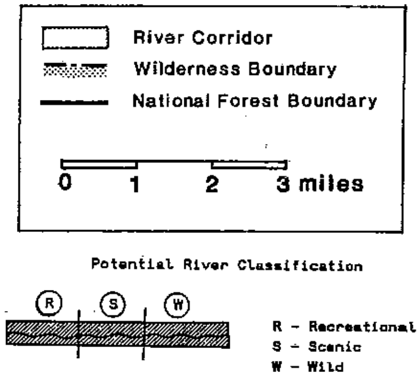
POTENTIAL AND RECOMMENDED CLASSIFICATION:

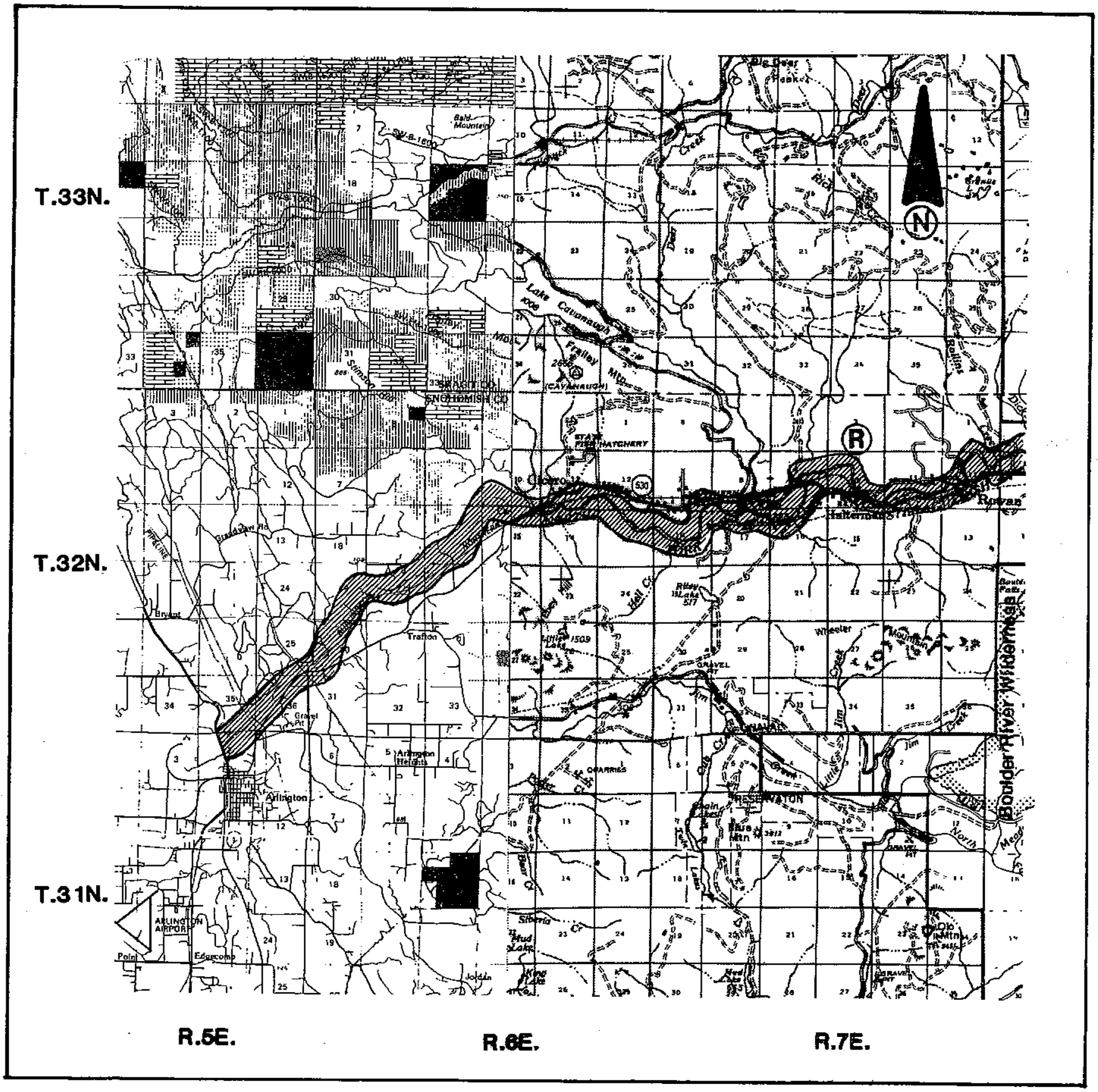
Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	49.8	None recommended	0

SUITABILITY DETERMINATION:

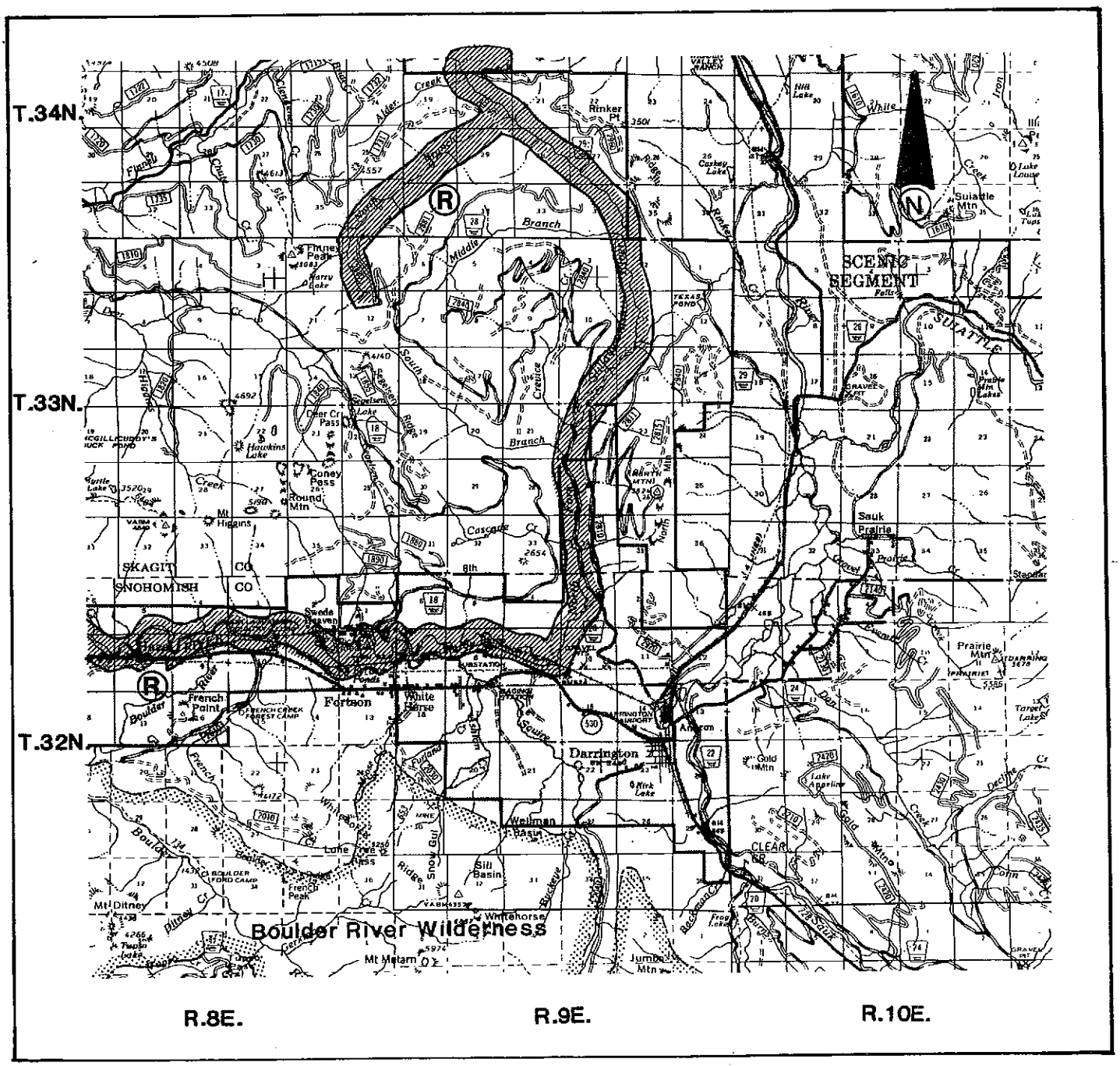
The North Fork of the Stillaguamish River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan because the majority of the outstandingly remarkable values are found off of the National Forest. A large portion of the river is in private ownership leading to potential management problems. There are high competing resource values on that portion of the river within the National Forest.

North Fork Stillaguamish River North Branch (1)





North Fork Stillaguamish River North Branch (2)



LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	10.8 miles	3,456 acres
Private	35.9 miles	11,040 acres
State	3.1 miles	1,440 acres
TOTAL	49.8 miles	15,936 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified by the BLM as an area of critical mineral potential. Neither is it encumbered by unpatented mining claims, and a review of available literature, including the Bureau of Mines MILS data, indicates the river has no reported locatable mineral resource occurrences of interest although one gold prospect was reported for T.32 N., R.8 E., Section 14. There are, however, numerous reported occurrences of both rock and sand and gravel resources which have been produced in the past.

The BLM has classified the west two miles as being prospectively valuable for oil and gas, and has classified the west 8 miles and a 9 mile section in the middle part of the river as "PV" for coal. However, none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears the area has a relatively low potential for the occurrence of locatable mineral resources. Portions of the river have at least a low potential for the occurrence of coal, oil and gas resources. No serious interest in either type of mineral resource is currently being expressed. The area does have mineral material resources which are being or have been produced in the past, and there appears to be a continuing interest in those resources.

WATER RESOURCE DEVELOPMENT: There are no water impoundments located on the river.

The Stillaguamish River is listed by the State Department of Ecology as a "River of Statewide Significance" based on water volume.

The North Fork Stillaguamish is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Highway 530 and other roads link the communities and residences in this area. Highway 530 parallels the river for its entire length in Snohomish County. Numerous logging roads also parallel the river and tributaries in the National Forest.

The river flows under a number of bridges. Highway 530 crosses the river east of Oso in Sec. 9, T.32 N, R.7 E. and again at NE 1/4 Sec. 15, T.32 N., R.6 E. Local roads cross the river at Sections 10 and 17, T.32 N., R.7 E.

The Northern Pacific Railroad parallels the river for all of its length in Snohomish county. It crosses the river east of Oso near Deer Creek, and again in NE 1/4 Sec. 15, T.32 N., R.6 E. and SW 1/4 Sec. 30, T.32 N., R.6 E.

Outside the forest boundary, the predominant land use is agricultural.

In the lower valley, there are farms and rural residences. The small communities of Whitehorse, Trafton and Arlington are all located in the valley. Some summer and recreation developments are located along river-front lands.

At the confluence of the North Fork and the South Fork Stillaguamish Rivers Twin Rivers County Park is a 50-acre site with soccer fields, fishing, etc. The facilities are planned specifically to tolerate the regular flooding that takes place there.

A small picnic area is located at the Fortson Fish Hatchery.

Steelhead Haven Park with fishing access is approximately 5 miles west of Darrington near Swede Heaven Road in NE 1/4 Sec. 12, T.32 N., R.8 E.

River access is available off SR530 17.3 miles northeast of Arlington and 8.6 miles and 2.5 miles west of Darrington. A primitive boat launch is located 7.5 miles northeast of Arlington off SR530.

Seattle City Light Transmission Lines parallel much of the river. There are three powerlines in the river corridor. One is south of the river at RM 15-34, one crosses the river at 2.2 miles from the confluence of the North Fork and the Stillaguamish Rivers, and the other crosses the river .7 mile from the confluence of the North Fork and the Stillaguamish Rivers.

RECREATION ACTIVITIES: Big game hunting and camping occurs in association with the Forest Service road system. Heavy fishing use occurs from Oso to the confluence with the South Fork.

Canoeing and kayaking are above average from Oso to South Branch. The North Fork Stillaguamish is considered a good training river. There is no rafting use inside the forest boundary and low use outside. Swimming use is moderate.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	1,000	1,440
Camping	3,500	5,250
Viewing (scenery, wildlife, driving for pleasure)	400	608
Misc. (hike, picnic, berry picking, etc.)	100	196
TOTAL	5,000	7,494

WILDLIFE AND FISHERIES: The North Fork Stillaguamish River corridor provides excellent winter range for black-tailed deer. It also provides excellent riparian, furbearer, and elk habitat.

The North Fork Stillaguamish is accessible to anadromous fish upstream to an impassable falls, located 3/4 mile below the mouth of the South Branch. However, the prime spawning and rearing habitat is located between Squire Creek and the community of Hazel. Large numbers of pink, chum and summer and fall

chinook use the North Fork and its accessible tributaries. Above Squire Creek, high summer water temperatures and low flows limit fish production. Below Hazel, near Rollins Creek, a major mud and clay slide on the river's right bank is depositing large amounts of silt into the river. The silt covers the gravel riffles, making them unsuitable for successful spawning and egg incubation. Deep pools located in the lower 6 miles of the river offer excellent holding and resting areas for adult salmon and provide exceptional rearing habitat. Sea-run cutthroat trout, mountain whitefish and resident rainbow and cutthroat trout also inhabit the river.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The area from the headwaters to the community of Fortson contains two different stream characteristics. The upper 14 miles has many boulders. The river is swift flowing over a steep gradient through a relatively deep-cut channel. The stream width varies from 2 to 5 yards. The banks are generally stable with sharp earth or rock cuts and only a few gently sloping rock beaches. The lower 6 miles are floodway in nature and present a moderate gradient and winding stream course. There are numerous, relatively broad riffles separated by deeper pool and glide stretches. There are low banks with naturally stable, earth-cut or gently sloping gravel-rubble beaches.

From Fortson to Oso, the valley floor is relatively broad and gently sloping. Stream gradient is moderate with considerable meandering and numerous channel splits. Pool-riffle balance is good to excellent with a mix of broad riffles and lengthy gravel beaches with some patch gravel sections. Pools are large and deep.

From Oso to Arlington, the river meanders a great deal, offering moderate gradient with good to excellent pool-riffle conditions. Just north of Trafton, the gradient decreases considerably and the stream channel contains numerous long, deep pools and relatively shallow, slow-moving glides. The channel width ranges from 45 feet to 100 feet. Numerous riffles are composed of gravel and mixed rubble with layers of silt deposit in slower waters.

In the upper headwaters, the stream bottom is mainly boulders and rubble with only occasional patch gravel. Further downstream, the channel is well-defined with only a few channel splitting sections, and the bottom is stable with clean rubble and gravel.

The sixty-three tributaries are predominantly steep-gradient, mountain-type streams with numerous cascades and small falls. Water quality is medium.

GEOLOGY: This river passes through two distinctly different geologic and topographic areas. From the headwater area to the Forest boundary, the bedrock is dominated by relatively soft and incompetent phyllite and greenschist. The river is rapidly downcutting through this soft rock producing a steep, unstable, V-shaped canyon. Upon leaving the Forest boundary the river enters a very wide, previously glaciated, U-shaped valley. Surrounding bedrock is primarily metasediments. However, very deep glacial till is the controlling geologic feature on the valley bottom and toeslopes.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the North Fork Stillaguamish River. However, information is available from a number of surveys made in conjunction with Federal projects and from published historical research. That no prehistoric sites have been recorded to date is believed to reflect the lack of survey of the drainage. During the historic period, the area was within the territory of the Stillaguamish tribe. Historic

sources indicate that there were several Indian villages and campsites along the North Fork during the historic period. Localities, used by the Samish, Sauk-Suiattle and Tulalip tribes in the practice of their traditional religion, exist in the upper segments of the river.

Historic period sites represent logging and railroading. In 1901, the Seattle International Railroad was extended to Darrington, primarily to serve mining developments of the Whitehorse Mining District. With the trains, came equipment for the first sawmills; and railroad logging spurs were extended up several of the tributaries of the drainage. None of the sites known from the North Fork are listed on the National Register of Historic Places.

TIMBER: There is extensive patch logging in the upper watershed. Some patch logging and clearcutting now takes place on the valley floor and on the adjacent hillsides. However, most of the lower slopes were clearcut during the early days of railroad logging.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest System lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
78.2	6.621	6.031

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: Extensive grazing of dairy and beef cattle occurs adjacent to Highway 530.

SOCIO-ECONOMIC EFFECTS: The North Fork of the Stillaguamish River meets SR 530 three miles west of Darrington (pop. 1020). Its confluence with the Stillaguamish River lies near Arlington (pop. 2990). Darrington is traditionally and presently a community which is supported by logging and the forest products industry. Arlington and nearby communities depend more on agriculture for their economic livelihood. A number of Arlington residents are employed in Everett. There is pressure to convert farmland to residences and businesses. Located on the Mountain Loop Highway, communities along the North Fork also benefit from tourism and outdoor recreation enthusiasts.

CURRENT ADMINISTRATION: Of the headwaters, 10.8 miles are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the North Fork Stillaguamish has been classified by Skagit and Whatcom counties as Conservancy or Rural. There are flood hazard zones all along the river. These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Rural designation denotes areas characterized by

agricultural uses, low density residential where most urban services are not available, and areas which provide buffer zones and open space between predominantly urban areas.

Almost all of the river corridor is classified as "Environmentally Sensitive" by Snohomish County. Lands along the river corridor, outside of federal jurisdiction, are zoned by Snohomish and Skagit Counties for Forestry or Rural Uses.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the North Fork Stillaguamish River for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 1,000	$ 50,000
Costs of Implementation		15,000
Development of Management Plan		98,100
Development Costs		150,000
Operation and Maintenance Costs		25,000
TOTAL - First Five Years	**$ 1,000**	**$338,100**

General administration and operation and maintenance costs are estimated to continue at $15,200 annually.

NORTH BRANCH OF THE NORTH FORK STILLAGUAMISH RIVER

Skagit County

The North Branch Stillaguamish River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Finney Peak downstream to its confluence with the North Fork Stillaguamish River.

Segment 1 - Headwaters in NE 1/4 of Sec. 12, T.33 N., R.8 E. to the confluence with the North Fork Stillaguamish River (5.1 miles).

RIVER MILEAGE:

Study:	5.1	miles
Eligible:	5.1	miles
Forest Plan:	0.0	miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The North Branch Stillaguamish River was found to possess "Outstandingly Remarkable" values for the following: Wildlife.

The North Branch area supplies winter range for black-tailed deer. It also supports excellent furbearer and riparian habitat.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	5.1	None recommended	0

SUITABILITY DETERMINATION:

The North Branch of the Stillaguamish was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to high competing resource values and low public interest. The North Branch is a logical addition only if the North Fork of the Stillaguamish is also suitable.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	5.1 miles	1,632 acres
TOTAL	5.1 miles	1,632 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified by the BLM as lying within an area of critical mineral potential. Neither is it encumbered by unpatented mining claims. A review of available literature, including the Bureau of Mines MILS data, indicates the river has no reported occurrences of locatable mineral resources. The BLM has not classified any part of this river as being prospectively valuable for leasable mineral resources, and no part of the river has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the river has a relatively low, if any, potential for the occurrence of both locatable and leasable mineral resources, and no serious interest in either type of mineral resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on the river.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are no developments on the river at this time. Logging roads are proposed for the future.

RECREATION ACTIVITIES: Trout fishing and big game hunting are the major recreation activities in this area.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Misc. (hike, picnic, berry picking, etc.)	100	196

WILDLIFE AND FISHERIES: The North Branch area contains winter range for black-tailed deer. It also supports excellent furbearer and riparian habitat.

Anadromous fish cannot access the river due to an impassable falls located on the North Fork Stillaguamish River. The river is inhabited by cutthroat and rainbow trout.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The North Branch contains many boulders. The river is swift, flowing over steep gradient through a relatively deep-cut channel. Stream width varies from 2 to 5 yards and the banks are generally stable.

The North Branch has 10 tributaries.

GEOLOGY: The bedrock geology is dominated by relatively soft and incompetent phyllite and greenschist. The river is rapidly downcutting through this soft rock producing steep and unstable V-shaped canyons. Adjacent sideslopes and ridges are forested or cutover.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the North Branch, and no prehistoric or historic resources are known. No localities used for traditional religious practices are known to exist within the potential wild and scenic river corridor.

TIMBER: The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
48.7	2.999	2.729

1/ Based on preferred alternative with revised requirements.

SOCIO-ECONOMIC EFFECTS: The North Branch, like the North Fork Stillaguamish which it joins, is near forest roads. Its confluence with the North Fork Stillaguamish is approximately 14 miles from Darrington (pop. 1020). Darrington is a community traditionally and presently dependent on logging and the forest products for its economic survival. It is located on the Mountain Loop Highway in an area noted for its scenery and recreation opportunities and benefits economically from the many visitors to the area.

CURRENT ADMINISTRATION: The river corridor is administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

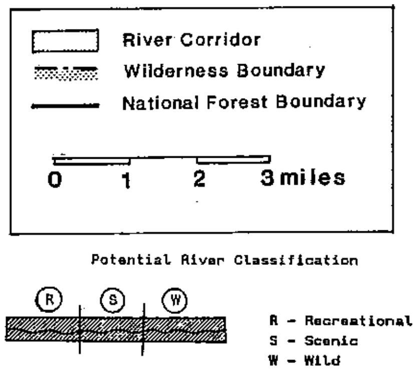
FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

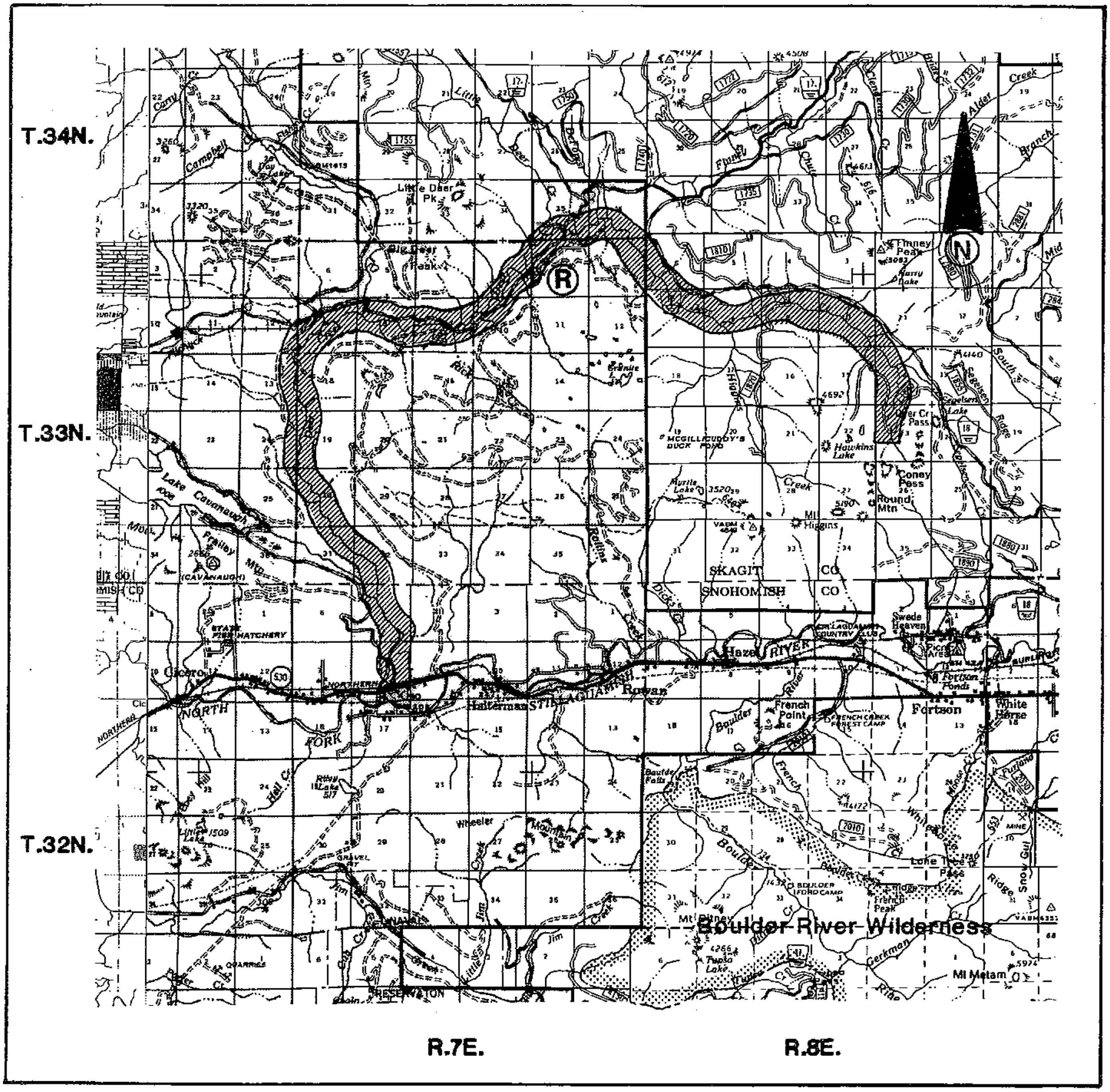
The following are expected funding requirements for the North Branch of the North Fork Stillaguamish River for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$500	$ 0
Costs of Implementation		1,000
Development of Management Plan		5,700
Development Costs		2,000
Operation and Maintenance Costs		500
TOTAL - First Five Years	**$500**	**$9,200**

General administration and operation and maintenance costs are estimated to continue at $200 annually.

Deer Creek


River Corridor
Wilderness Boundary
National Forest Boundary
0 1 2 3 miles
Potential River Classification
R
S
W
R - Recreational
S - Scenic
W - Wild


T.34N.
T.33N.
T.32N.
R.7E.
R.8E.
R
N
Little Deer Pk.
Big Deer Peak
Lake Cavanaugh
SKAGIT CO
SNOHOMISH CO
Hazel
RIVER
Rowan
Halterman
NORTH FORK
STILLAGUAMISH
Fortson
French Point
White Horse
Swede Heaven
Finney Peak
Coney Pass
Round Mtn
Hawkins Lake
Mt Higgins
Boulder River Wilderness
Mt Pilchuck
Tupso Lake
French Peak
Mt Mitam
Cicero
Campbell
Finney
Alder
Creek
South
Boulder
French
Jim
Wheeler

DEER CREEK

Skagit and Snohomish Counties

Deer Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters near Coney Pass to its confluence with the North Fork Stillaguamish River at Oso.

Segment 1 - The headwaters near Coney Pass in the SW 1/4 of Section 23, T.33 N., R.8 E. to the confluence with the North Fork Stillaguamish River (23.5 miles).

RIVER MILEAGE:

Study:	23.5 miles
Eligible:	23.5 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Deer Creek was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

The Deer Creek drainage supports an excellent, extensive black-tailed deer winter range. Two SOHA's are located in the upper reaches of the creek.

Deer Creek is accessible to anadromous fish runs nearly to its headwaters. The creek is known for its famous summer steelhead run. Fall and spring chinook, coho, pink and chum salmon and resident trout also inhabit the creek.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	23.5	Not recommended	0.0

SUITABILITY DETERMINATION:

Deer Creek was found to be not suitable for inclusion in the preferred alternative of the Forest Plan since only a small portion of the river is within the National Forest.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	7.4 miles	2,368 acres
Private	9.1 miles	2,912 acres
State	7.0 miles	2,240 acres
TOTAL	23.5 miles	7,520 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segment is classified by the BLM as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the area has had only one reported prospect for a locatable mineral resource. That prospect was for nickel, and it was located in T.33 N., R.7 E., Section 31. The BLM mining claim recordation data does indicate that 48 unpatented mining claims were located in Sections 22, 23, 26 and 27, T.33 N., R.8 E. However, of those 48 claims, 36 have either been abandoned or declared to be null and void, and the remaining 12 may or may not lie within the river corridor.

BLM has classified a 14 mile segment in the middle part of the river as being prospectively valuable for coal resources. The river is not considered to be prospectively valuable for any other leasable mineral resources, and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the river has a relatively low potential for the occurrence of locatable mineral resources. A portion of it does have at least a low potential for the occurrence of coal resources. However, no serious interest in the coal resources has been expressed, and only a minor interest in locatable mineral resources has been expressed for the eastern-most two miles of the river.

WATER RESOURCE DEVELOPMENT: This river is classified as "Protected" from hydropower development by the NW Power Planning Council.

There are no water impoundments.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Logging roads provide the principal access throughout most of the area. A single lane gravel road parallels the creek.

Highway 530 crosses Deer Creek at the town of Oso. In addition, the creek flows under 2 other road bridges and the Burlington Northern Railroad bridge just north of Oso.

Rip-rap has been placed along the creek in the following locations: 3,000 yards under the Highway 530 and Burlington Northern bridges, 1,000 yards at the mouth of Rick Creek, 2,000 yards under the Forest Road 1820 bridge crossing, and 200 yards near mile post 1.5 of Forest Road 1840.

The mouth of tributary Deforest Creek has been channelized and stabilized.

Fish habitat improvement and stream stabilization projects are planned for several locations along the creek.

There are a few rural residences along the lower reaches of the creek and in the community of Oso.

There are no developed campgrounds.

RECREATION ACTIVITIES: The river is seldom used for rafting, due to poor access. The lower 11 miles offer a moderate amount of kayaking. The river gets only incidental use for swimming at Oso. There is minimal use of the creek corridor for dispersed recreation.

Deer Creek has been closed to fishing since 1941 in order to protect and rebuild stocks of summer steelhead.

TIMBER: There has been extensive clear-cut logging in the upper watershed. Views are of logged lands and second growth tree stands.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
54.9	3.284	3.005

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: Deer Creek is in close proximity to forest roads. It flows into the North Fork Stillaguamish near the community of Oso. Oso (pop. 75) is located on the Mountain Loop Highway. The economy of the area in the vicinity of Deer Creek is traditionally dependent on the forest products industry and small farming. However, an increasing number of visitors are seeking out the recreation opportunities available along the Stillaguamish River system and surrounding mountains. Camping, fishing, hiking, hunting, cross-country skiing and sightseeing all attract visitors into the area.

CURRENT ADMINISTRATION: The river corridor inside the Forest boundary is administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of Deer Creek has been classified by Snohomish County as Conservancy. This classification is applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A conservancy designation denotes shoreline areas which are primarily free from intensive development. Flood hazard zones have also been designated in the shoreline area.

Within Snohomish County, much of the land along Deer Creek, that is outside of federal jurisdiction, is zoned for Agricultural Use with 10-acre tracts and Rural Use with 5-acre tracts. There are also some parcels of land zoned for Forestry Use. All of the Deer Creek corridor that lies within Skagit County is zoned for Forestry Use.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Waterplay (swim, wade)	50	75
Camping	200	300
Viewing (scenery, wildlife, driving for pleasure)	150	230
Misc. (hike, picnic, berry picking, etc.)	50	100
TOTAL	450	705

WILDLIFE AND FISHERIES: The Deer Creek drainage supports an excellent, extensive black-tailed deer winter range. Two SOHA's are located in the upper reaches of the creek.

Deer Creek is accessible to anadromous fish runs nearly to its headwaters. Fall and spring chinook, coho, some pink and an occasional chum salmon and steelhead utilize the creek for spawning and rearing. Deer Creek is known for its famous summer steelhead run. Resident trout are found in the headwaters area. Additional fish production is limited by heavy silt loading and a tendency toward flash flooding. This condition has been aggravated by areas of extensive clearcut logging in the upper watershed.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The stream gradient is moderately steep. Very narrow, ravine- and canyon-like conditions are predominant in the lower five miles with very steep gradients. The creek bottom is boulder-strewn, interspersed with rubble and a few riffle and patch gravel sections. There are 23 tributaries flowing into Deer Creek. The tributaries exhibit steep gradients common to mountain streams. They contain numerous cascades and waterfalls. The main channel of Deer Creek contains several passable cascades. There is a heavy sediment load in the water below DeForest Creek due to land slides.

GEOLOGY: Within the confines of the Forest boundary and extending downstream several miles, the bedrock geology is dominated by nonmarine sedimentary rocks formed from sediments of silt and sand deposited on the floors of ancient fresh water lakes. These rocks consists of graywacke or arkose sandstone interbedded with mudstone, siltstone and shale. Extensive glaciation occurred during the last glacial period depositing till and lacustrine materials hundreds of feet thick. Subsequent rapid downcutting through these often unstable materials has caused oversteepening of the sidewalls resulting in numerous old and recent landslides.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Deer Creek and no prehistoric or historic sites have been recorded. The lack of known sites is believed to reflect the lack of survey of the drainage. During the historic period the area was within the territory of the Stillaguamish tribe. The mouth of the river was known as a large campground for Indians during forays to the high country for berry picking and hunting. The Deer Creek drainage currently has some value for local Indians in the practice of their traditional religion.

The town of Oso developed as a logging town. The Oso Elementary School is recognized on the State Register of Historic Place.

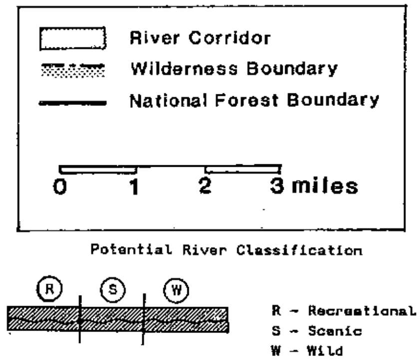
FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

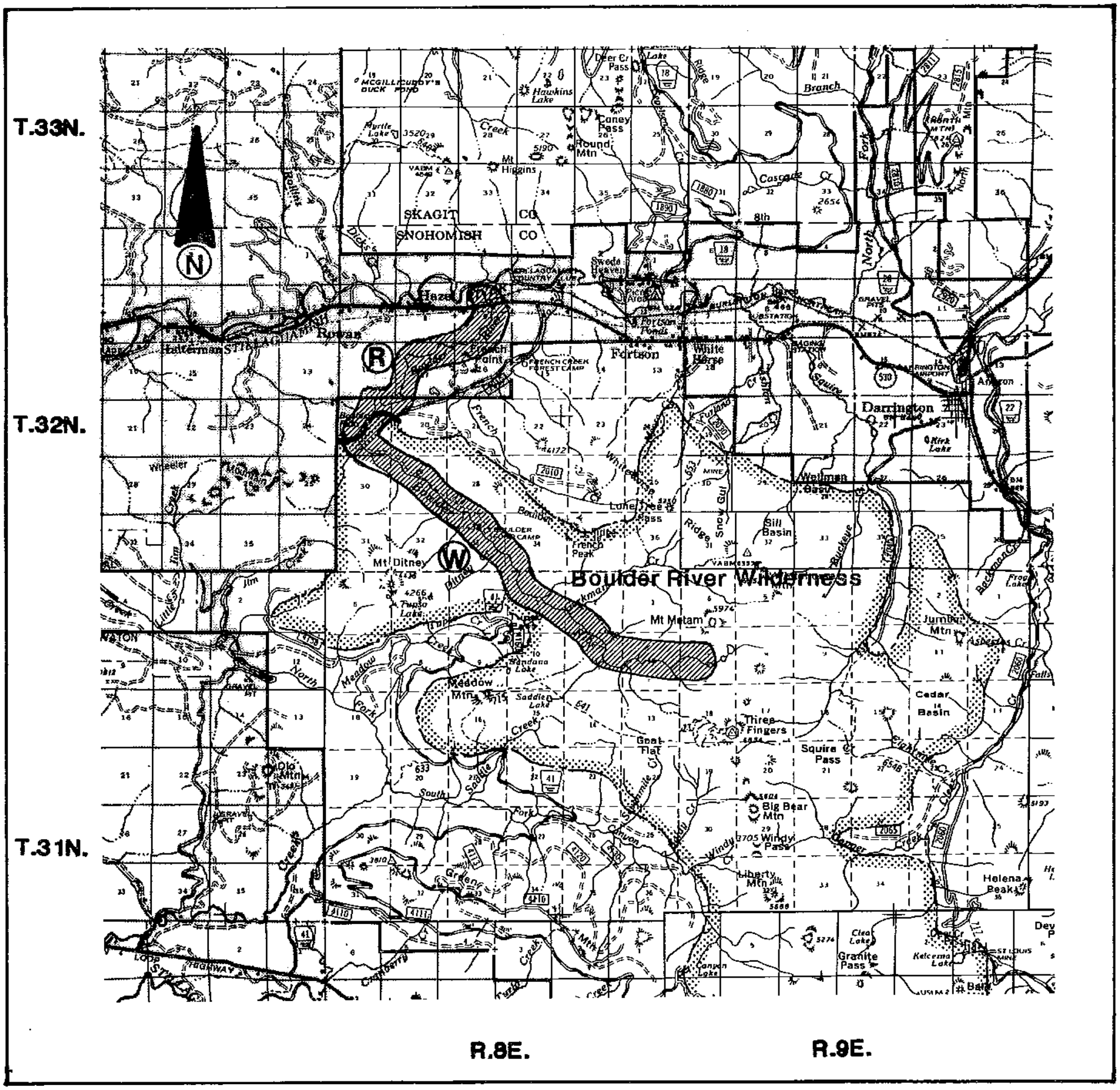
The following are expected funding requirements for Deer Creek for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 1,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		43,800
Development Costs	0	5,000
Operation and Maintenance Costs		1,000
TOTAL - First Five Years	**$ 1,000**	**$52,800**

General administration and operation and maintenance costs are estimated to continue at $600 annually.

Boulder River





BOULDER RIVER

Snohomish County

The Boulder River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Boulder River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From its headwaters on Three Fingers Mountain to its confluence with the North Fork Stillaguamish River.

Segment 1 - Headwaters in SW 1/4 of Sec. 7, T.31 N., R.9 E. to Boulder River Wilderness boundary (9.0 miles).

Segment 2 - Boulder River Wilderness boundary to confluence with North Fork Stillaguamish River (4.0 miles).

RIVER MILEAGE:

Study:	13.0 miles
Eligible:	13.0 miles
Forest Plan:	13.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Boulder River was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

The Boulder River provides habitat for a diverse number of fish species. The river provides spawning and rearing habitat for fall chinook, coho, pink and chum salmon and also supports a population of summer steelhead and dolly varden.

An extensive winter range for black-tailed deer and habitat for bald eagles are contained within the river corridor. There is mountain goat habitat at the headwaters and two SOHA's are located within the wilderness.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	9.0	Wild	9.0
Segment 2	Recreation	4.0	Recreation	4.0

almost all in wilderness

SUITABILITY DETERMINATION:

Boulder River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to a lack of resource conflicts and the support of other public agencies. This river was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982. Ease of management would be facilitated by a majority of the river being located in wilderness.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	9.0 miles	2,880 acres
(Boulder River Wilderness - 9.0 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.9 miles	288 acres
Private	1.0 miles	222 acres
State	2.1 miles	770 acres
TOTAL	13.0 miles	4,160 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither of the river segments are classified by the BLM as areas of critical mineral potential or are encumbered by unpatented mining claims. A review of available literature, including the Bureau of Mines MILS data, indicates the river has only one reported occurrence of a locatable mineral resource, which was a prospect for manganese located in Section 16, T.32 N., R.8 E. No part of the river has been classified by the BLM as being prospectively valuable for leasable mineral resources, and none of it has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the river has a relatively low potential for the occurrence of both locatable and leasable mineral resources, and no serious interest in the mineral resources of this river is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on the river.

This river is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Highway 530, the Northern Pacific Railroad, and powerlines cross the Boulder River 0.5 mile from its confluence with the North Fork Stillaguamish.

There are a few homes located near the mouth of the river.

Some hay farming occurs near the mouth of the river.

The Boulder River Trailhead #734 is located at the end of Forest Road 2010. The trail follows the river past Boulder Falls to Boulder Ford Camp.

There are no developed campgrounds along the river.

RECREATION ACTIVITIES: Recreation use in the National Forest is low. Some camping occurs along the river in undeveloped sites. A trail parallels the river inside the Wilderness boundary.

The lower 3 miles of the Boulder River receives moderate use for steelhead fishing. The upper reaches have moderate use for rainbow and cutthroat trout fishing.

There is Class V whitewater kayaking below Boulder Falls to the confluence with the North Fork Stillaguamish River. The river is not suitable for rafting or swimming.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	400	576
Camping	3,000	4,500
Viewing (scenery, wildlife, driving for pleasure)	20	30
Misc. (hike, picnic, berry picking, etc.)	1,900	3,724
TOTAL	5,320	8,830

WILDLIFE AND FISHERIES: The Boulder River provides winter range habitat for the black-tailed deer. The corridor also provides a wintering area for the federally listed Threatened and Endangered species, the bald eagle. Habitat for mountain goats occurs near the headwaters and two SOHA's are located within the wilderness.

The Boulder River is accessible to anadromous fish runs for nearly 3 miles upstream from the mouth. This section provides spawning and rearing area for fall chinook, coho, pink, and some chum. The river also supports a population of summer steelhead and dolly varden.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The upper river drops sharply through a deep narrow cut. The Boulder River Canyon section, lying 3 to 5 miles downstream from the headwaters is very narrow and almost entirely composed of cascades. There are many falls with vertical drops of greater than 20 feet. At Boulder Falls, 8 miles downstream from the headwaters, the valley walls narrow and steepen into a deep ravine for 2 miles. At Boulder Falls the river drops 50 feet. Below the falls, the valley floor widens, the stream gradient is moderate and the stream width averages 24 feet. Ten tributaries drain into the Boulder River.

The water is discolored due to glacial runoff from Three Finger Mountain, but the water quality is good.

GEOLOGY: Beginning in granitics and gneissic rocks, the river flows mostly through weathered and incompetent phyllite schist and greenschist. Very deep deposits of unstable lacustrine materials and glacial till occur throughout much of the middle portion of the valley. Rapid downcutting since glaciation has removed side support and has caused frequent areas where the inner gorge sidewalls have collapsed. Some very deep V notches are present where the river has downcut through local inclusions of relatively competent bedrock that has resisted failing.

CULTURAL RESOURCES: No systematic cultural resource survey has been done on the Boulder River, and research is limited. During the historic period, the drainage was within the territory of the Stillaguamish tribe. Localities used by the Samish and Sauk-Suiattle tribes to practice their traditional religion have been identified within the proposed Wild and Scenic River corridor.

Some historic sites are recorded, primarily associated with logging and Forest Service administration; however, no sites are listed or known to be eligible for the National Register of Historic Places.

TIMBER: The lower 3 miles along the river have been clearcut in the past. Stands of second growth poles now occupy the site.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
5.4	.614	.558

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: Boulder River has its headwaters in the Boulder River Wilderness. It joins the North Fork of the Stillaguamish River approximately 7 miles east of Oso. Oso is on the Mountain Loop Highway and in close proximity to the Everett metropolitan area. Economies traditionally dependent on forest products and small farming are supplemented by benefits from an increasing number of visitors seeking the recreation opportunities available in the area. Camping, hiking, hunting, fishing, cross-country skiing and sightseeing all attract people into the area.

CURRENT ADMINISTRATION: From its headwaters downstream 9 miles, the Boulder River flows within the Boulder River Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA, Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the Boulder River has been classified as Conservancy by Snohomish County. This classification is applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

The Snohomish County Comprehensive Plan has zoned all land along the river corridor, outside of federal jurisdiction, for Forestry Use, except for a small rural diversification zone near the confluence with the North Fork Stillaguamish.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Boulder River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 2,000	$ 1,000
Costs of Implementation		3,000
Development of Management Plan		11,200
Development Costs		10,000
Operation and Maintenance Costs		2,000
TOTAL - First Five Years	**$ 2,000**	**$27,200**

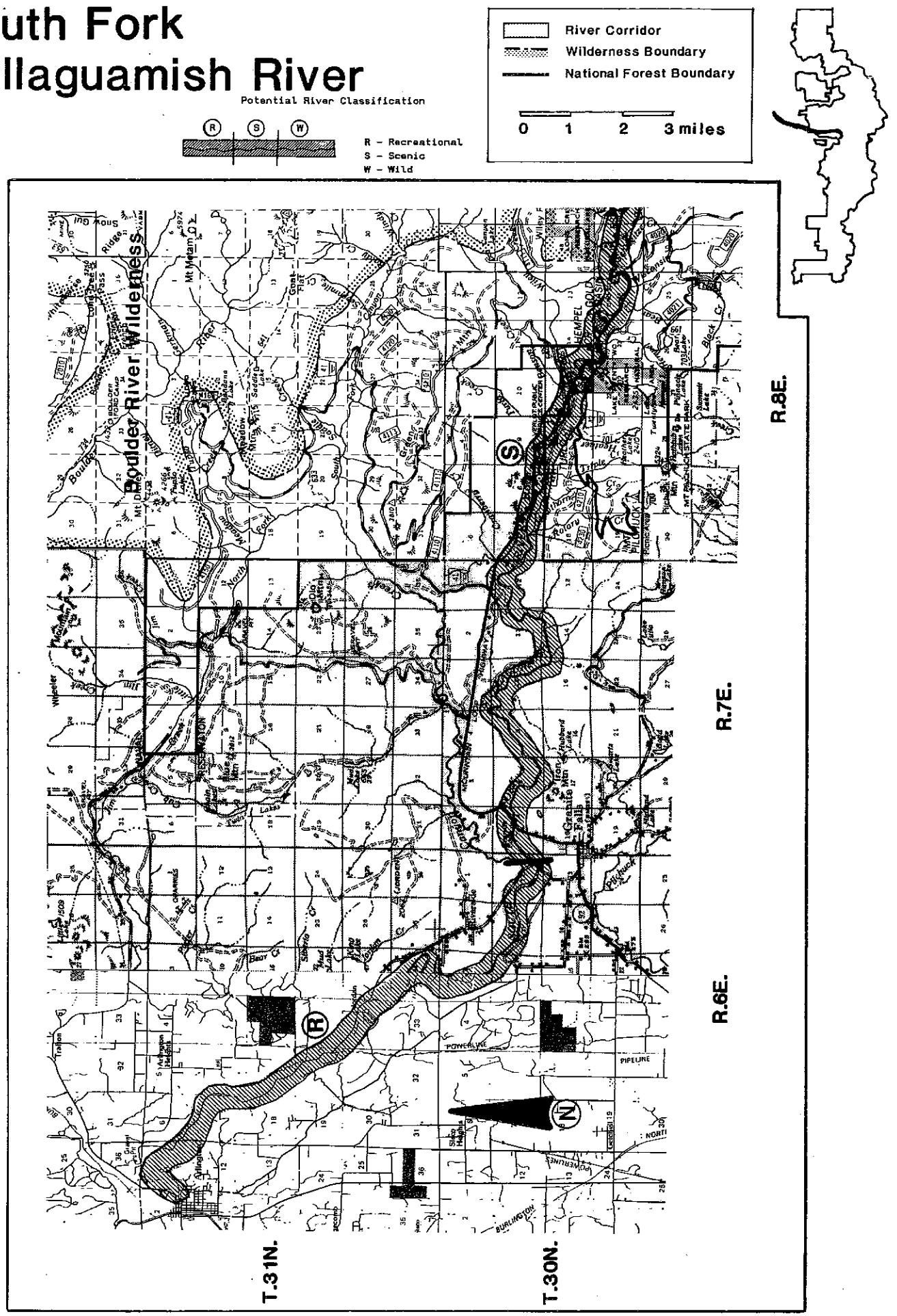
General administration and operation and maintenance costs are estimated to continue at $1,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

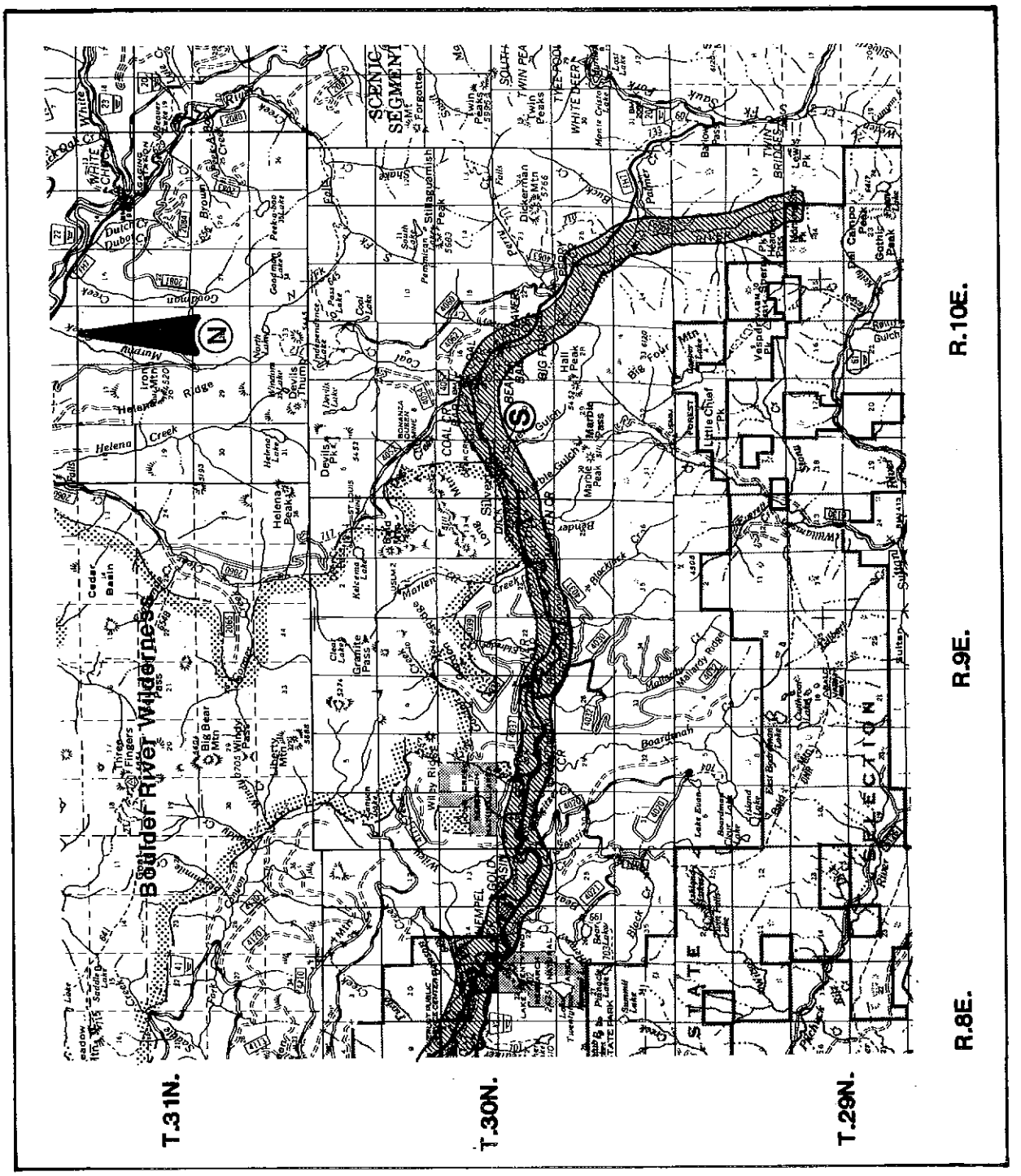
This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	422
		Wilderness-General Trailless	1,499
		Wilderness-Dedicated Trailless	1,055
Segment 2	Recreation	Wilderness-Transition	21
		Wilderness-General Trailless	21
		Timber Management	147

South Fork Stillaguamish River (1)



South Fork Stillaguamish River (2)



SOUTH FORK STILLAGUAMISH RIVER

Snohomish County

The South Fork Stillaguamish River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The South Fork Stillaguamish River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From its headwaters on Morning Star Mountain downstream to its confluence with the North Fork Stillaguamish, near the town of Arlington.

Segment 1 - Headwaters between Morning Star and Lewis Peaks in NE 1/4 of Sec. 14, T.29 N., R.10 E. to Canyon Creek (36.6 miles).

Segment 2 - Canyon Creek to the confluence with the North Fork Stillaguamish River (15.9 miles).

RIVER MILEAGE:

Study:	52.5 miles
Eligible:	52.5 miles
Forest Plan:	52.5 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The South Fork Stillaguamish River was found to possess "Outstandingly Remarkable" values for the following: Scenic, Recreation, Fisheries, Wildlife, Historical/Cultural, and Ecological.

There is a wide range of landscapes from pastoral scenes in the lower valley to extraordinary mountain scenes of Big Four, Vesper Peak and Del Compo.

The South Fork Stillaguamish receives heavy use by kayakers, canoeists and campers. Many visitors to the area drive the Mountain Loop Highway.

The river corridor contains an extensive winter range for black-tailed deer and bald eagles. Several SOHA's are located in the Big Four area.

There is good spawning and rearing habitat for chinook, chum, coho, and some pink salmon. A fish ladder was constructed in 1954 at Granite Falls.

Historic sources indicate that the South Fork Stillaguamish was used extensively by the Stillaguamish tribe. The river served as a travelway, with portages to the Sauk and Pilchuck Rivers. Historic period sites represent mining, logging, homestead settlements, recreation development and Forest Service administration.

Dense stands of conifers are found from the headwaters to Verlot and dense stands of mixed deciduous trees and conifers grow further downstream to Arlington. Along the upper reaches, there is a well-developed riparian zone with isolated fresh water wetlands containing sphagnum bogs and cedar stands.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Scenic	36.6	Scenic	36.6
Segment 2	Recreation	15.9	Recreation	15.9

SUITABILITY DETERMINATION:

The South Fork of the Stillaguamish River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the high number of outstandingly remarkable values, public support, and other agency support. The South Fork of the Stillaguamish was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982. More recently, in 1988, the Washington State Scenic River Assessment included the South Fork as a river "possessing the natural, cultural, and recreational values that would make it a suitable addition to the Washington State Scenic Rivers System".

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	19.7 miles	6,304 acres
Private	15.1 miles	4,632 acres
County	0.8 mile	256 acres
State	1.0 mile	520 acres
Segment 2		
Private	15.9 miles	5,048 acres
State	0.0 miles	40 acres
TOTAL	52.5 miles	16,800 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Approximately six miles of this river have been identified by the BLM as an area of critical mineral potential (Sections 22,23 and 24, T. 30 N., R.9 E. and Sections 22,26 and 32, T.30 N., R.10 E.). A review of available literature, including the Bureau of Mines MILS data, indicates numerous reported locatable and salable mineral resource occurrences consisting of gold, silver, copper, lead, zinc, limestone, rock and sand and gravel. Most of these occurrences appear to have only experienced some prospecting activity, although, some have actually produced. Of most interest for the locatable mineral resources are the limestone deposits in Section 9 and 14, T. 30 N., R.7 E., and the precious and base metal occurrences reported along the river in T. 29 and 30 N., R.9 and 10 E. and in T.30 N., R.7 E., Sections 8,9 and 18. The limestone deposits, however, do appear to have been exhausted and abandoned. According the BLM mining claim recordation data, numerous unpatented mining claims (258) have been located along the river or adjacent to the corridor from Section 20, T. 30 N., R.9 E. eastward to the end of the river. Of these 258 or so claims, 117 have either been abandoned or declared to be null and void, and the majority of the remaining active claims are located in Sections 2,11 and 12, T.29 N., R.10 E.

The BLM has classified the eastern 5 miles of the river as being prospectively valuable ("PV") for geothermal resources, and the western 11 miles and a 3 mile section near Silverton have been classified "PV" for coal resources. However, none of the river corridor has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that from Section 20, T.30 N., R.9 E. eastward the area has a low to moderate potential for the occurrence of both precious and base metal mineral resources. This area is encumbered by numerous unpatented mining claims which indicate a continuing interest in the locatable mineral resources of that part of the river. The remaining part of the river appears to have a relatively low potential for the occurrence of locatable mineral resources. No serious interest in these resources has recently been expressed. As indicated above, portions of the river do have at least a low potential for the occurrence of both coal and geothermal resources, however, no serious interest in those resources has been recently expressed.

WATER RESOURCE DEVELOPMENT: The river is classified as "Protected" from hydropower development by the NW Power Planning Council.

The Stillaguamish River is listed by State Department of Ecology as a "River of Statewide Significance" based on water volume.

Two preliminary permits for hydroelectric projects have been issued by FERC for a project on the Marten Creek and Boardman Creek tributaries. Proposed facilities within the river corridor consist of a transmission line and a powerhouse on each tributary. The Marten Creek project capacity will be 1.5 megawatts; the Boardman Creek project 1.4 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: County highways, private land access and timber access roads parallel all but a few miles of the river. The Mountain Loop Highway parallels the river west to Granite Falls and, from Granite Falls to Arlington it is paralleled by the Jordan road.

The Mountain Loop Highway crosses the river near the fish ladder at Sec. 15, T.30 N., R.8 E. and at Red Bridge in Sec. 7, T.30 N., R.7 E. The Jordan Road crosses near Granite Falls at Sec. 12, T.30 N., R.6 E. At Arlington, Highway 530 also crosses the river at Sec. 2, T.31 N., R.5 E.

There is also a private bridge at Silverton and a suspension bridge over the river near Jordan Road in NE 1/4 Sec. 28, T.31 N., R.6 E.

There is limited agricultural development. The amount of cleared farmland increases toward Arlington.

Along the river, there are numerous rural residences and summer homes, the small communities of Silverton, Robe, and Verlot as well as the larger towns of Arlington and Granite Falls.

Following are developed campgrounds and day use areas located along the river:

Beaver Creek Campground (4 sites)
Coal Creek Bar Campground (5 sites)
Martin Creek Campground (5 sites)
Esswine Campground (5 sites)
Boardman Campground (5 sites)
Red Bridge Campground (16 sites)
Turlo Campground (19 sites)
Verlot Campground (26 sites)
Gold Basin Campground (93 sites)
Silverton School Organization Camp
Wiley Creek Youth Organization Camp
Tulalip Millsite Organization Camp
Big Four Picnic Area
Hemple Creek Picnic Area
Dick Sperry Picnic Area

The Big Four Ice Caves Trailhead #723 is located at the Big Four Picnic Area, 14.5 miles east of Verlot. This is the most popular trail on the Darrington Ranger District. A trail bridge crosses the South Fork.

The Sunrise Mountain Trail #707 begins at the end of Forest Road 4065. The trail crosses the South Fork via a footlog before ascending Sunrise Mountain.

At the confluence of the North Fork and South Fork Stillaguamish Rivers, Twin Rivers County Park has soccer fields, fishing, etc. Facilities are planned specifically to tolerate the regular flooding.

River Meadows Country Park east of Arlington has a river access area with parking lot, walk-in fishing, and boat launch. A proposed boat launch a short distance down river at Jordan Road would utilize a more protected site with a slower current.

There is fishing access at Riverscene, about 8 miles upriver from Arlington at the confluence of Canyon Creek and South Fork Stillaguamish.

There are sections of rip-rap on National Forest land along the Mountain Loop Highway and many such sites off-Forest.

A salmon rearing pond has been constructed at Heather Creek. There is a fish ladder north of Granite Falls just below the highway crossing in Sec. 7, T.30 N., R.7 E.

There are plans to construct salmon rearing ponds at Gold Basin Mill Pond and Beaver Creek.

A powerline runs to Gold Basin Campground.

RECREATION ACTIVITIES: The South Fork Stillaguamish receives heavy use by kayakers and canoeists. From Riverbar (Mallardy Creek confluence) to Verlot, the river requires experienced (Class III) boaters. From Granite Falls to Arlington the river is suitable for beginners. Likewise, the river receives high use for swimming and tubing. The river receives relatively low use from rafters.

Use for fishing is moderate to high inside the forest boundary and high outside the boundary to Arlington.

The river corridor is a gateway to the North Cascades. There is heavy camping use along the river. Many visitors to the area drive the Mountain Loop Highway. There is a wide range of landscapes from pastoral scenes in the lower valley to mountain scenes of Big Four, Vesper Peak and Del Compo.

Hiking takes place year around. Cross-country skiing is on the increase from Silverton to Barlow Pass.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	100	165
Waterplay (swim, wade)	300	450
Fishing, Hunting	1,000	1,440
Camping	110,400	165,600
Viewing (scenery, wildlife, for pleasure)	42,100	63,992
Misc. (hike, picnic, berry picking,etc.)	69,400	136,024
TOTAL	223,300	367,671

WILDLIFE AND FISHERIES: The river area contains extensive winter range for black-tailed deer and bald eagles. It also has Western pond turtle habitat and excellent riparian habitat for other animals.

Good coho salmons runs are found throughout the length of the river. A fish ladder was constructed at Granite Falls in 1954. Below the fishway, the spawning area has improved in recent years. However, it is greatly under-utilized by summer and fall chinook. Pink salmon use this section in moderate but increasing numbers. Above the falls, the river has a steeper gradient. Only coho use this section in large numbers. A few pink and chinook salmon spawn here. Chum are almost non-existent. A massive earth slide located near Verlot causes heavy silt loading on spawning beds during periods of heavy runoff. Many gravel riffles downstream have been rendered unsuitable for successful spawning or egg incubation. Resident rainbow and cutthroat trout inhabit the entire length of the river.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The South Fork Stillaguamish has medium water quality, due to heavy silt loading from the earth slides above Verlot. The river contains numerous rapids, cascades and falls. It is a stable, fast flowing, riffle-type river with numerous boulder strewn areas. In general, the bottom is boulder-rubble with some bed-rock. The gradient is fairly steep, and increases sharply below Boardman Creek. Fifty-one tributaries drain into the South Fork.

GEOLOGY: The bedrock geology consists primarily of metasedimentary and metavolcanic rocks. The most dominant geological process is very deep deposition of till and unstable lacustrine materials during the previous ice age. Most of the valley contains the characteristic glaciated U-shape. However, a deep gorge occurs within the lower 7 miles.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the South Fork Stillaguamish River. Existing information comes primarily from published historical research. No prehistoric sites have been recorded, however, it is believed that this reflects the lack of survey of the drainage. Historic sources indicate that the South Fork Stillaguamish was used extensively by the Stillaguamish Tribe, and that the river was used as a travelway, with portages to the Sauk and Pilchuck Rivers. No locations used for traditional religious practices are known within the potential Wild and Scenic River corridor.

Historic period sites represent mining, logging, homestead settlements, recreation development and Forest Service administration. During the 1890's, hundreds of mining claims were located in the Silverton Mining District. During the same period, a railroad was built up the South Fork Stillaguamish to provide access to the Monte Cristo Mining District. Mining interests peaked and declined before the turn of the century, but the railroad, under new ownership, continued to operate for some time. Many settlements, such as Granite Falls, Robe, Verlot and Silverton were established in the valley. In 1920, a recreation resort was built on the river. The only access to this was by way of the railroad, then operating under the name Hartford and Eastern. The resort did very well until the onset of the Depression. In the 1930's, the railroad tracks were removed and sold for scrap. The highway up the South Fork follows the railroad in part, and portions of the old grade are visible from the highway. The Hartford and Eastern Railroad is listed on the State Registry of Historic Places.

In the early 1900's, logging interests were developed in the South Fork Stillaguamish drainage. The major operation within the drainage was the Gold Basin Timber and Shingle Company. Remains of this operation have not been fully inventoried.

Forest Service administration is represented by the Verlot Public Service Center. This administrative site was built by the Civilian Conservation Corps as a ranger station and living quarters for the Monte Cristo Ranger District. The buildings that remain of the original 1930's compound are listed on the National Register of Historic Places.

TIMBER: Considerable timber harvesting has occurred with numerous and large-scale clear-cut areas.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
121.6	3.155	2.865

1/ Based on proposed preferred alternative with revised minimum management requirements.

SOCIO-ECONOMIC EFFECTS: The South Fork of the Stillaguamish river is accessible by forest roads and local roads over its entire length. The small communities of Silverton, Verlot and Robe are all within or near the Mt. Baker Forest boundaries. Granite Falls and Arlington are larger communities located on the South Fork. The historic gold mining community of Monte Cristo is accessible from Silverton. Campsites are dispersed all along the South Fork. The availability of recreation and scenic resources contributes to the economy of the more remote communities which still derive their major support from the forest products industry.

CURRENT ADMINISTRATION: The river corridor inside the forest boundary is administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the South Fork Stillaguamish has been classified by Snohomish County as Conservancy from the forest boundary to Granite Falls and Rural from Granite Falls to Arlington. These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Rural designation denotes shoreline areas characterized by agricultural uses, low density residential where most urban services are not available, and areas which provide buffer zones and open space between predominantly urban areas.

The Snohomish County Comprehensive Plan has zoned land along the South Fork Stillaguamish, outside of federal jurisdiction, for Forest Use or Residential Use, with 5 or 10 acre lots. Many flood hazard zones are identified along the river.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the South Fork Stillaguamish River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 51,000	$ 50,000
Costs of Implementation		30,000
Development of Management Plan		94,200
Development Costs	124,800	100,000
Operation and Maintenance Costs	204,500	30,000
TOTAL - First Five Years	**$380,300**	**$304,200**

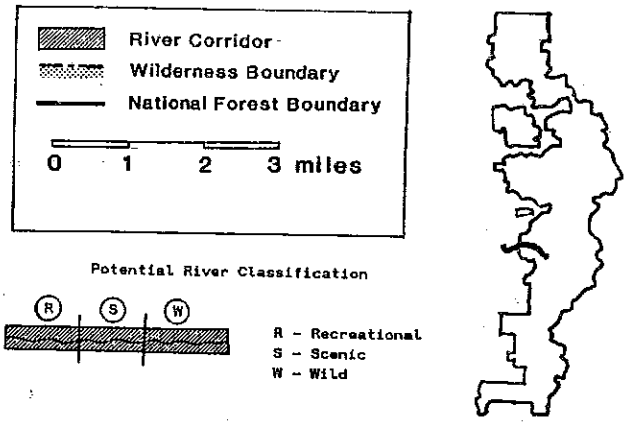
General administration and operation and maintenance costs are estimated to continue at $67,100 annually.

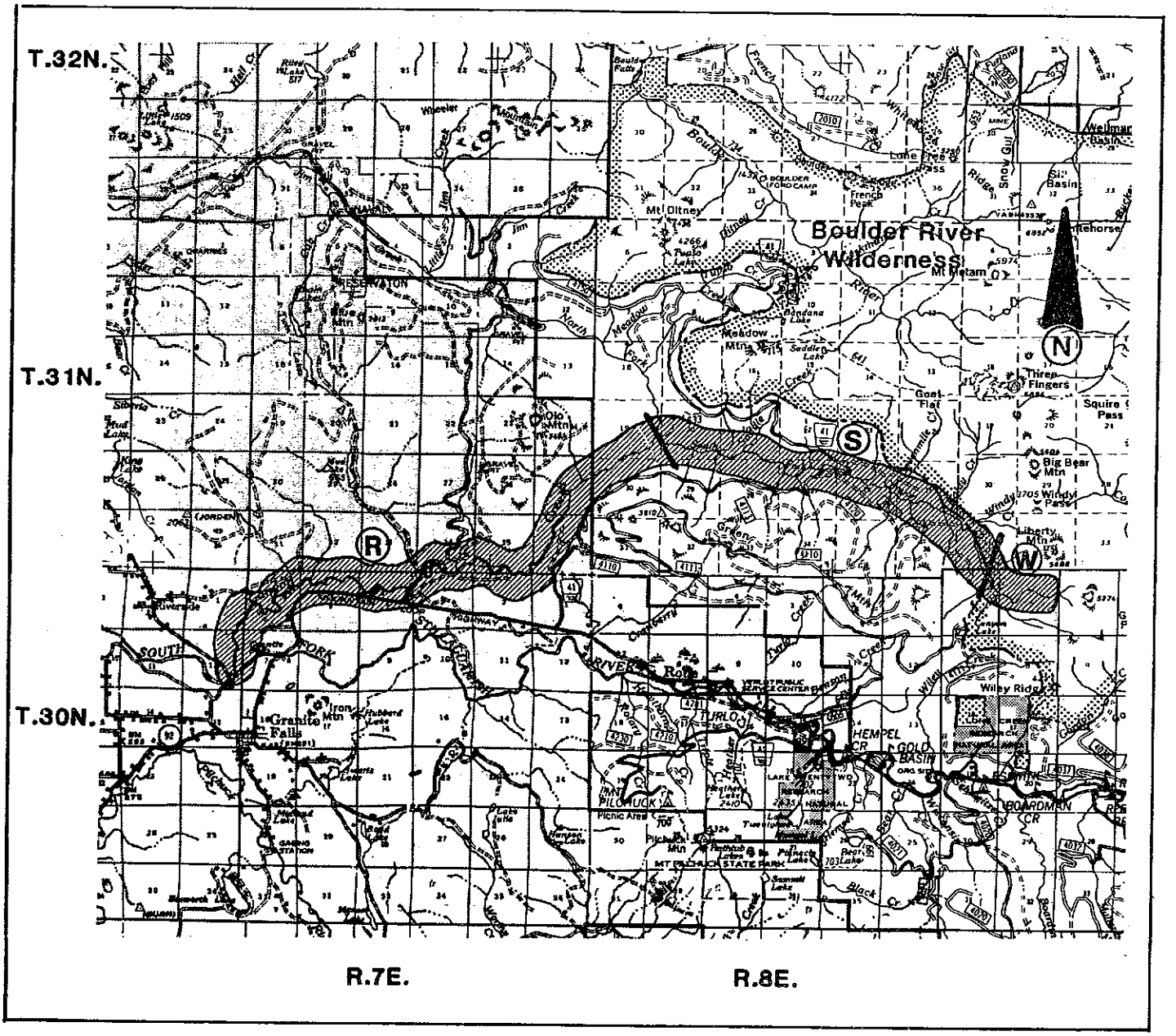
LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Scenic	Semi-Primitive, Non-Motorized Recreation	1,140
		Scenic Corridor (Foreground)	4,202
		Scenic Corridor (Middleground)	422
		Wilderness-General Trailless	126
		Old Growth Habitat (spotted owl)	168
		Pine martin/pileated woodpecker habitat	380
		Timber Management	84

Canyon Creek and South Fork Canyon Creek





CANYON CREEK (TO FORK)
SOUTH FORK CANYON CREEK

Snohomish County

Canyon Creek and South Fork Canyon Creek were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Canyon and South Fork Canyon Creeks were identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From the headwaters of the South Fork of Canyon Creek to the confluence of Canyon Creek with the South Fork Stillaguamish River.

Segment 1 - Headwaters of S. Fork Canyon Creek in NE 1/4 of Sec. 5, T.30 N., R.9 E. to the Boulder River Wilderness boundary (1.3 miles).

Segment 2 - Boulder River Wilderness boundary to the confluence with the North Fork of Canyon Creek (7.1 miles).

Segment 3 - Confluence of North and South Forks of Canyon Creek to the confluence with the South Fork Stillaguamish River (11.9 miles).

RIVER MILEAGE:

Study:	20.3 miles
Eligible:	20.3 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Canyon Creek and South Fork Canyon Creek were found to possess "Outstandingly Remarkable" values for the following: Fisheries and Ecological. South Fork Canyon Creek also has values for Wildlife.

Chinook, coho, pink and chum salmon spawn and rear in Canyon Creek. Summer and winter steelhead are also present.

Areas within the Canyon Creek drainage contain dense conifer stands of large timber, including old-growth.

Both rivers have an extensive black-tailed deer winter range, as well as other excellent riparian habitat. There is wintering bald eagle habitat, raptor nesting of osprey, excellent furbearer habitat, and a SOHA.

Appendix E
Canyon Creek/
South Fork Canyon Creek

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	1.3	Not recommended	0
Segment 2	Scenic	7.1	Not recommended	0
Segment 3	Recreation	11.9	Not recommended	0

SUITABILITY DETERMINATION:

Canyon Creek and the South Fork of Canyon Creek were found to be not suitable for inclusion in the preferred alternative of the Forest Plan.

Canyon Creek to the fork is almost entirely in private ownership. Designation of the South Fork would conflict with other resource values, principally high timber values. Existing old-growth in this area is already protected by other land allocations.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Boulder River Wilderness - 1.3 miles)	1.3 miles	416 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	6.6 miles	2,112 acres
Private	.5 miles	160 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	1.5 miles	480 acres
Private	9.7 miles	2,908 acres
State	0.7 mile	420 acres
Total	20.3 miles	6,496 acres

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: No part of these rivers is classified by the BLM as areas of critical mineral potential, nor does the BLM Mining Claim Recordation Data indicate any part is encumbered by unpatented mining claims. A review of available literature, including the Bureau of Mines MILS data, indicates the rivers have only one reported mineral resource occurrence which may be of a locatable nature. That occurrence is reported as a limestone deposit which has produced in the past. Little information is available concerning the deposits specific location or characteristics.

The BLM has not classified any part of these river segments as being prospectively valuable for leasable mineral resources, and none of the subject lands have been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that, except for the limestone deposit upon which there is little information, these rivers have a relatively low potential for the occurrence of either locatable or leasable mineral resources. No serious interest in these resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on either creek, but some water is used for irrigation.

These creeks are classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Roads are visible from Canyon Creek and the South Fork of Canyon Creek from the mouth for 11 miles. Roads cross the creeks at Sections 4 and 6, T.30 N., R.7 E., and on the line of Sec. 4 & 5, T.30 N., R.7 E.

Along the lower reaches of Canyon Creek, there is some cattle ranching and corn and hay farming.

In the lower 4 miles of Canyon Creek, there are approximately 25 home sites situated along the creek.

The Forks of Canyon Creek Trail #633 begin on the Tupso Pass Road #41. The trail leads to the confluence of the North and South Forks of Canyon Creek. A dispersed camping site is located near the confluence.

There are no developed campgrounds nor potential opportunity for development along either creek.

There is fishing access at Riverscene, about 8 miles upriver from Arlington, at the confluence of Canyon Creek and South Fork Stillaguamish.

RECREATION ACTIVITIES: There is low recreation use along both creeks due to restricted access on private land and little access provided on public land. Near the mouth of Canyon Creek, there is a moderate amount of fishing. The lower 10 miles of Canyon Creek is classified at Class IV whitewater kayaking. The creeks are not suitable for rafting or swimming.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	100	144
Misc. (hike, picnic, berry picking, etc.)	100	196
TOTAL	200	340

WILDLIFE AND FISHERIES: There is extensive black-tailed deer winter range along both rivers, as well as other excellent riparian habitat. There is wintering bald eagle habitat, raptor nesting of osprey and excellent furbearer habitat. A SOHA is located on the South Fork Canyon Creek.

Chinook and steelhead spawn and rear in the mainstem and the South Fork up to the barrier falls. Given adequate water conditions, coho and some chinook can ascend the falls and swim upstream as far as Tiger Creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Canyon Creek, below the North and South Forks, is characterized by moderately steep gradients with steep side valley slopes. At 1.5 miles above the mouth, the creek narrows into a canyon with a steep gradient, narrow channels and numerous rapids. The creek bottom is littered with boulders and gravel. Eighteen tributaries drain into Canyon Creek.

Sediment loading into the creek is significant due to 2 earth slides, heavy logging and road building in the upper watershed.

GEOLOGY: The bedrock geology consists primarily of metasedimentary and metavolcanic rocks. During the previous ice age, glaciers carved out a U-shaped valley and left very thick lacustrine and till deposits. Rapid downcutting is returning the valley to its pre-glacial V-shape. This is also causing destabilization of the lacustrine materials resulting in numerous mass failures.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Canyon Creek, and no prehistoric or historic sites are recorded. The lack of known sites is believed to reflect the lack of survey of the drainage. During the historic period the area was within the territory of the Stillaguamish tribe. Localities used for traditional religious practices by the Samish tribe have been identified within the South Fork drainage.

No sites associated with logging or Forest Service administration have been listed or identified as eligible for the National Register of Historic Places.

TIMBER: Private lands have been clearcut down to the river. National Forest lands have been patch clearcut.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system land only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
54.1	7.931	7.805

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: Some cattle grazing occurs along the lower reaches of Canyon Creek on private land.

SOCIO-ECONOMIC EFFECTS: Canyon Creek joins the South Fork of the Stillaguamish about 1 mile north of Granite Falls, a community strongly dependent on forest resources for employment.

CURRENT ADMINISTRATION: From its headwaters downstream 1.3 miles, the South Fork of Canyon Creek flows through the Boulder River Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of Canyon Creek has been classified by Snohomish County as Conservancy. This classification is applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

Land along the Canyon Creek corridor, outside of federal jurisdiction, is zoned by Snohomish County for:

Forestry Use from the forest boundary downstream for 5 miles.

Rural Use with 1 home per 5 acre lots from the Canyon Creek Lodge area to the confluence with the South Fork Stillaguamish. Flood hazard zones exist throughout this area, possibly affecting future development.

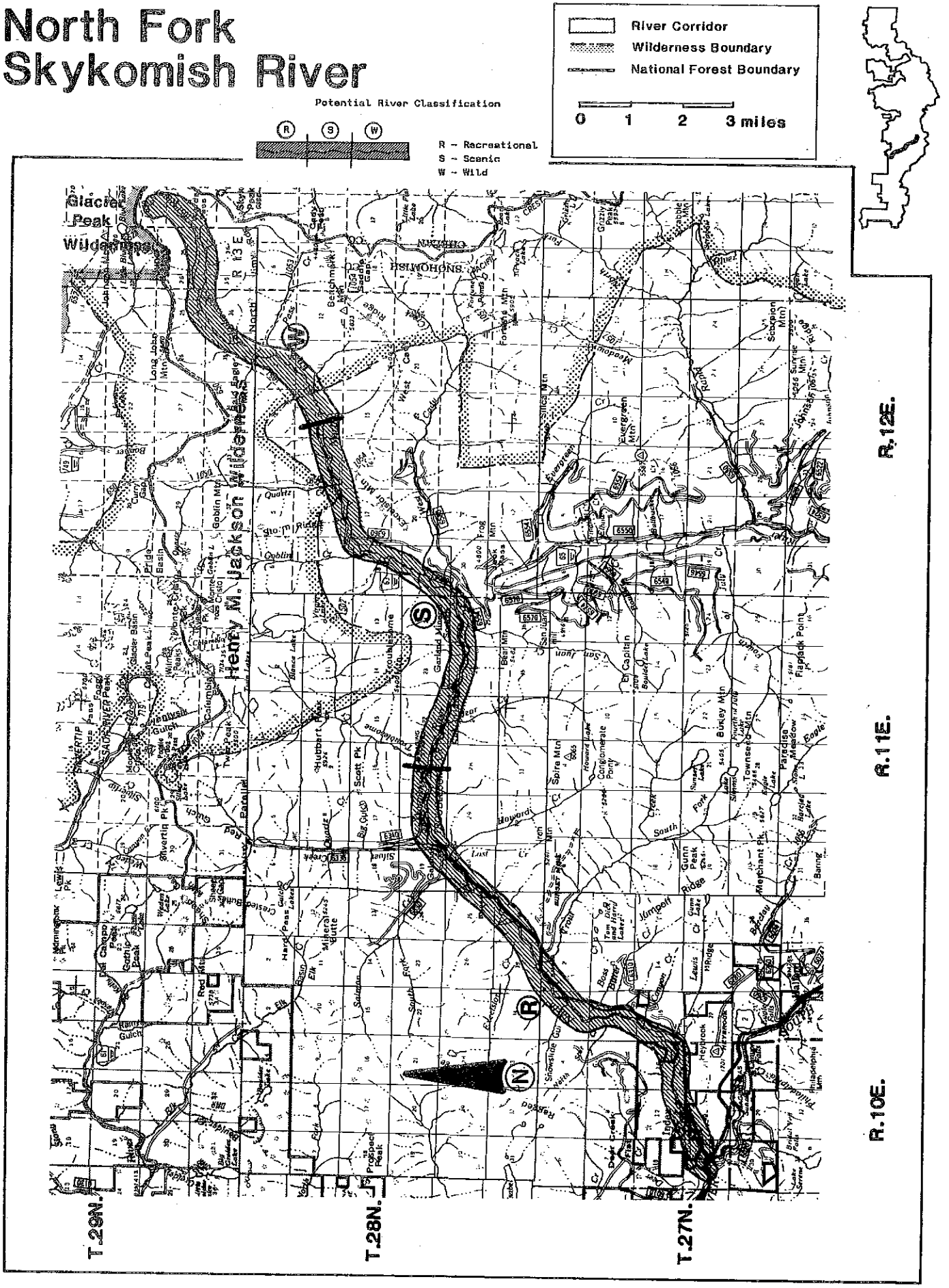
FUNDING NEEDS IF CLASSIFIED AS A WILD AND A SCENIC RIVER:

The following are expected funding requirements for the Canyon and South Fork Canyon Rivers for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 1,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		33,500
TOTAL - First Five Years	**$ 1,000**	**$ 36,500**

General administration and operation and maintenance costs are estimated to continue at $400 annually.

North Fork Skykomish River



NORTH FORK SKYKOMISH RIVER

Snohomish County

The North Fork Skykomish River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The North Fork Skykomish River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

The North Fork Skykomish River to the Bear Creek tributary is designated by the State of Washington as a Scenic River under the State's Scenic Rivers Act.

LOCATION: From its headwaters north of Skykomish Peak to the confluence with the South Fork Skykomish River.

Segment 1 - Headwaters in NW 1/4 of Sec. 30, T.29 N., R.14 E. to end of F.S. Road #63 in NW 1/4 of Sec. 10, T.28 N., R.12 E (8.2 miles).

Segment 2 - Road end to Troublesome Creek (8.4 miles).

Segment 3 - Troublesome Creek to confluence with South Fork Skykomish River (12.0 miles).

RIVER MILEAGE:

Study:	28.6 miles
Eligible:	28.6 miles
Forest Plan:	28.6 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The North Fork Skykomish River was found to possess "Outstandingly Remarkable" values for the following: Scenic, Recreation, Fisheries and Wildlife.

Prominent features along the North Fork Skykomish River include Deer Falls, Bear Falls, Troublesome Mountain, Bear Mountain and Keyes Peak.

The North Fork is one of Washington State's most continuously challenging whitewater rafting runs. Eleven miles of the river is Class III or Class IV. The river is also a favorite of expert kayakers. Fishing is popular for steelhead, salmon and resident trout. Backpacking and horseback riding are popular along the upper reaches of the river. Cross-country skiing and snow play along the river are popular during the winter.

The river corridor is significant for its population of bald and golden eagles and spotted owl habitat area. A key winter range for black-tailed deer lies on both sides of the lower section of the river. There is also has excellent furbearer and riparian habitats for black bear, cougar, coyote, bobcat, and marten.

The North Fork supports a population of chinook, coho and pink salmon as well as steelhead trout.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	8.2	Wild	8.2
Segment 2	Scenic	8.4	Scenic	8.4
Segment 3	Recreation	12.0	Recreation	12.0

SUITABILITY DETERMINATION:

The North Fork of the Skykomish River was found to be suitable for inclusion in the preferred alternative of the Forest Plan. The river has a high number of outstandingly remarkable values. It is one of Washington State's most continuously challenging whitewater rafting and kayaking runs, with 11 miles of class III or IV river. The corridor is significant for its population of bald and golden eagles, as well as spotted owls. There is public and other agency support for designation. The North Fork was identified as a potential wild and scenic river in the Nationwide Rivers Inventory published by the National Park Service in 1982.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Henry M. Jackson Wilderness - 6.8 miles)	8.2 miles	2,624 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	8.0 miles	2,638 acres
Private	0.4 mile	50 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	6.0 miles	1,920 acres
Private	5.0 miles	1,320 acres
State	1.0 mile	600 acres
Total	28.6 miles	9,152 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: The BLM has classified about 10 miles of this river (T.28 N., R.11 E.) as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates numerous reported occurrences of both precious and base metals resources. Of most importance, appear to be those located in Section 35, T.28 N., R.10 E., Section 19, T.28 N., R.11 E. The BLM mining claim recordation data indicates that 140 unpatented mining claims have been located along or adjacent to the river from Section 36, T. 28 N., R.10 E. eastward. Of these 140 claims, however, 37 have either been abandoned or declared to be null and void. Of the remaining 103 claims most are located in Sections 19, 20, 21, 22, 28 and 29, T.28 N., R.11 E. The mineral resources of a part of the area have been evaluated by the U.S.G.S. and U.S.B.M. (Church and Others, 1983 and 1984), and based upon the geology of the area and the results of their sampling they have concluded the following:

The vicinity of Section 35, T.28 N., R.10 E. and Sections 2 and 3, T.27 N., R.10 E. has a moderate potential for the occurrence of copper and silver resources, and Sections 25,26,35 and 36, T.29 N., R.13 E., Section 31, T. 29 N., R14 E. and Sections 25 and 36, T.29 N., R12 E. have a low potential for the occurrence of precious metal resources in hot spring type deposits, a low potential for the occurrence of base and precious metal resources in hydrothermal veins and a moderate potential for the occurrence of base metal resources in disseminated porphyry deposits.

The BLM has classified the entire river as being prospectively valuable ("PV") for geothermal resources, and three miles of the river near Galena is classified "PV" for coal resources. However, none of the area has been encumbered by mineral leases or lease applications.

Based upon available information, it appears that a large portion of the area does have potential for the occurrence of both precious and base metal mineral resources and a potential for the occurrence of coal and geothermal resources. The mining claims located along the river indicate that there is at least some serious interest in the locatable mineral resources. However, no serious interest in the leasable mineral resources has recently been expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on the North Fork Skykomish. This river is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

Nine preliminary permits for hydroelectric projects have been issued by FERC and two license applications have been submitted on tributary rivers to the North Fork. The following is a list of the tributaries, proposed facilities and the capacity of the project in megawatts:

Tributary	Proposed Facilities within Corridor	Megawatts
West Cady	Transmission line	4.0
Goblin Creek	Transmission line	1.0
San Juan Creek	Transmission line	2.2
Bear Creek	Transmission line	2.7
Troublesome Creek	Transmission line	3.7
Howard Creek	Transmission line	3.5
Trout Creek	Transmission line	4.9
Excelsior Creek	Transmission line	1.7
Salmon Creek	Transmission line	2.9
Silver Creek	Transmission line	3.4
Storm Ridge1/	Transmission line, powerhouse, diversion structure and penstock	15.0

1/ Storm Ridge project is on the main North Fork Skykomish, not a tributary.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENT: Segments 2 and 3 of the North Fork is paralleled by a road. U.S. 2 passes the river corridor near the confluence of the North and South Forks of the Skykomish River. From the junction with U.S. 2, the paved North Fork Road #6300 passes the community of Index and follows the North Fork River to a fork about a mile beyond the San Juan Campground. It continues, unpaved over Jack Pass and back to U.S. 2 via the Beckler River Road. This is a popular scenic loop and has long been under consideration for paving as a scenic drive. At the fork by San Juan Campground, F.S. Road 63 takes off and runs unpaved along the river. It ends

at the North Fork Skykomish Trailhead about 3/4 mile from the Henry M. Jackson Wilderness boundary.

F.S. Road 6360 crosses the North Fork above Goblin Creek. F.S. Road 65 crosses above San Juan Creek. County Road 63 crosses near Troublesome Creek. County Road 6335 crosses below Silver Creek. The Index road bridge and railroad bridge cross at Index. A powerline crosses just above the confluence with the South Fork.

The North Fork Skykomish/Dishpan Gap Trail #1051 begins at the end of F.S. Road 63. The trail follows the North Fork Skykomish valley to the northeast to the headwaters of the river.

The Quartz Creek/Curry Gap Trailhead #1050 is located 1 mile west of the end of F.S. Road 63. The trail heads uphill along Quartz Creek.

The West Cady Ridge Trailhead #1054 is also located 1 mile west of the end of F.S. Road 63. The trail heads up West Cady Ridge to Saddle Gap.

The Blanca Lake Trail #1052 begins on F.S. Road 63, 2 miles northeast of Garland Mineral Springs.

The communities of Index, Galena, and Garland are located on the west bank of the river. Downstream from Silver Creek, there are 4 private subdivisions which support recreation residences. There are also a few scattered summer cabins. Along the lower 2 to 3 miles of the river, rural and suburban residences are found along the river.

There is a cable tram crossing at Trout Creek and several old bridge crossings from early railroad logging. A log stringer bridge is located near Excelsior Mountain.

The Burlington Northern Railroad is in the river corridor near the confluence of the North and South Forks of the Skykomish River.

There are two campgrounds located along the river: Troublesome Creek Campground and San Juan Campground. Both are widely used for overnight camping.

Many fish habitat structures were put in the river in 1986-87 near Goblin Creek.

There are sections of dikes from Garland to Jack's Pass and also at the town of Index.

Rip-rap is found at Index, Garland, F.S. Road 65 and Troublesome Creek Campground.

RECREATION ACTIVITIES: The lower portion of the North Fork Skykomish receives high recreation use, much of which is oriented toward river activity. The North Fork is one of Washington States most continuously challenging whitewater rafting runs. Eleven miles of the river is Class III or Class IV. The river is also a favorite of expert kayakers. Use of the river is low by swimmers. Fishing is popular for steelhead and salmon up to Bear Falls. Resident trout fishing is also popular in the upper reach. Some planting takes place.

Hunting occurs in the surrounding areas. Backpacking and horseback riding are popular in the upper reaches of the river. Cross-country skiing and snow play along the river are popular during the winter.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	265	437
Waterplay (swim, wade)	15	22
Fishing, Hunting	1,470	2,117
Camping	69,670	104,505
Viewing (scenery, wildlife, driving for pleasure)	15,635	23,765
Misc. (hike, picnic, berry picking, etc.)	2,880	5,645
TOTAL	89,935	136,491

WILDLIFE AND FISHERIES: The entire area is within the big game management unit 448 and goat management units 11 and 37. The river corridor is significant for its population of bald and golden eagles and spotted owl habitat area. A key winter range for black-tailed deer lies on both sides of the lower section of the river. There is also excellent furbearer and riparian habitats for black bear, cougar, coyote, bob cat, and marten.

Birds include band-tailed pigeons, dipper, harlequin duck, spotted sand piper, warbling vireos, red-tailed hawk, bald eagle, white tailed ptarmigan, Audubon's warber, downy woodpecker, evening gosbeak, red crossbill, western tanager, spotted owl, and great grey owl.

The North Fork supports a population of chinook, coho and pink salmon as well as steelhead trout. Chinook salmon is the principal species and is common up to Bear Falls. The anadromous steelhead are numerous below Bear Falls and sparse above Bear Falls to Deer Falls. Resident trout inhabit the entire length of the river. Angler use is heavy for steelhead and light for all other species. Holding ponds and fish planting has been in operation for several years through mutual agreements with the Index Sportsman, Washington State Department of Wildlife and Department of Fisheries, and U.S. Forest Service.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Small falls and cascades are found in the upper 10 miles of the river, separated by short rapids or occasional pool-riffle stretches. Bear Falls and Deer Falls are two of the larger falls along the river.

There are 64 tributaries to the North Fork Skykomish. All exhibit steep mountain characteristics over their entire length. They contain narrow channels with numerous cascades, small falls and a few riffles or pools with bottoms generally consisting of boulder rubble material.

GEOLOGY: The upper 10 miles of the river covers steep mountainous terrain, with the river flowing though a narrow, occasionally canyon-like valley. The valley broadens slightly between Goblin and San Juan Creeks. Downstream below San Juan Creek, the valley again narrows with rugged side slopes. Down river from Silver Creek, the river courses through a relatively narrow, very steep sloped valley. The valley broadens slightly over the lower two to three

miles. Most of the river flows through glacial material deposited from glaciers along the canyon bottom.

There are 2 distinctive geologic features along the river: the Index Town Wall (cliffs) and Troublesome Mountain formations which provide a striking addition to the forested slopes.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the North Fork Skykomish. Information is available primarily from published historic sources.

No prehistoric sites have been recorded to date. The absence of sites probably reflects the lack of survey of the area. Historically, the drainage was within the territory of the Skykomish Indians. The Skykomish and Wenatchee Indians used a trail that followed the North Fork as a main travel and track route across the Cascades. No localities used for traditional religious practices are known within the proposed Wild and Scenic River corridor.

Historic period sites represent mining, logging and Forest Service administration. The Silver Creek Mining District was established in 1871, but mining began in earnest in 1882, when several discoveries were made in rapid succession. As a result, the townsites of Mineral City and Galena were established on the North Fork. Between 1890 and 1894, a trail was built between Mineral City and Galena.

A small lumber mill was established in 1904 at the town of Index. From this, the Index-Galena Logging Company was formed in 1907. By 1922, the company operated approximately 14 miles of logging railroad along both sides of the North Fork. It operated until 1928.

There are two sites within the proposed Wild and Scenic River corridor that are listed on the National Register of Historic Places. Both are buildings located within the town of Index and associated with the development of the town.

TIMBER: Extensive logging occurs from Deer Falls downstream

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	----------ASQ----------	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
188.2	3.441	3.378

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The North Fork of the Skykomish River has its headwaters at Dishpan Gap near the Cascade Crest in the Henry M. Jackson Wilderness. A traditional horse use area, the river is bordered by pack trail, then by forest road. This area offers developed campgrounds, ample dispersed camping, and several trailheads. Many visitors are drawn to the area by its scenic and recreation attractions.

The community of Index (pop. 147) lies on the river one mile north of its confluence with the Skykomish River. Traditionally a mining and logging community, Index has also become a magnet for retirees and vacation home-owners. The "Index Town Wall" (cliffs) attract many skilled rock climbers who have established numerous routes on the "wall".

CURRENT ADMINISTRATION: From its headwaters downstream 6.8 miles, the North Fork Snoqualmie flows through the Henry M. Jackson Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, most of the shoreline of the North Fork Skykomish River has been classified as Conservancy by Snohomish County. Several areas that have been subdivided near the town of Index have been classified Rural. These classifications are applicable only to lands not under federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Rural designation denotes shoreline areas characterized by agricultural uses, low density residential where most urban services are not available, and areas which provide buffer zones and open space between predominantly urban areas.

The land along the North Fork Skykomish River corridor, outside of federal jurisdiction, is zoned by Snohomish County for Forestry Use. Subdivisions near the town of Index, are in a flood hazard zone, which may inhibit further development.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the North Fork Skykomish River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 570,000	$ 50,000
Costs of Implementation		10,000
Development of Management Plan		82,000
Development Costs	883,000	60,000
Operation and Maintenance Costs	61,500	15,000
Total - First Five Years	**$1,514,500**	**$217,200**

General administration and operation and maintenance costs are estimated to continue at $139,300 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Semi-Primitive, Non-Motorized Recreation	211
		Wilderness-Trailed	1,055
		Wilderness-General Trailless	922
Segment 2	Scenic	Semi-Primitive, Non-Motorized Recreation	2,977
		Old Growth Habitat (spotted owl)	21
		Timber Management	168
Segment 3	Recreation	Semi-Primitive, Non-Motorized Recreation	549
		Deer and Elk Habitat Enhancement	1,098
		Timber Management	549

TROUBLESOME CREEK

Snohomish County

Troublesome Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters in the Henry M. Jackson Wilderness at Blanca Lake to the confluence with the North Fork Skykomish River.

Segment 1 - Headwaters at Blanca Lake to Forest Road 63 (4.4 miles).

Segment 2 - Forest Road 63 to the confluence with the North Fork Skykomish River (0.1 mile).

RIVER MILEAGE:

Study:	4.5 miles
Eligible:	4.5 miles
Forest Plan:	4.5 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Troublesome Creek was found to possess "Outstandingly Remarkable" values for the following: Wildlife.

Mountain goats and spotted owls are predominant wildlife in the drainage.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	4.4	Wild	4.4
Segment 2	Scenic	0.1	Scenic	0.1

SUITABILITY DETERMINATION:

Troublesome Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the lack of compating resource values. Designation would have no impact on timber resources and the potential hydro-electric value is incompatible with Forest Plan land allocations.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest (Henry M. Jackson Wilderness - 2.3 miles)	4.4 miles	1,408 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.1 miles	32 acres
Total	4.5 miles	1,440 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

Troublesome Creek

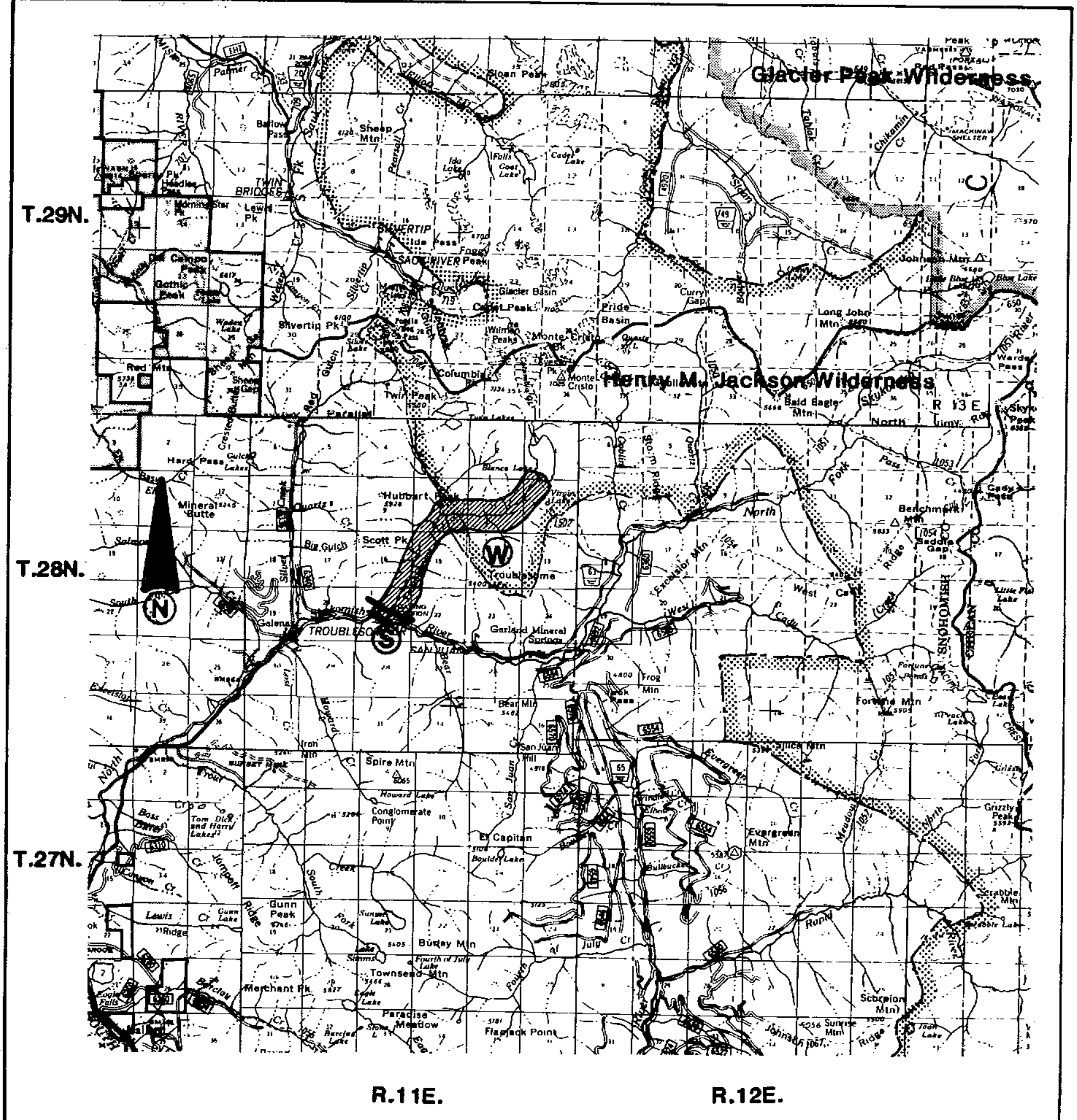
River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles

Potential River Classification

(R) (S) (W)

R - Recreational
S - Scenic
W - Wild



MINERAL AND ENERGY RESOURCE ACTIVITIES: The entire creek lies within an area classified by the BLM as having critical mineral potential. Even though the area has no reported mineral resource production history, a review of available literature, including the Bureau of Mines MILS data, does indicate the area has precious and base metal resource occurrences. These occurrences appear to be concentrated in Sections 10, 15 and 21, T.28 N., R.11 E. The BLM mining claim recordation data also indicates that 144 mining claims have been located along or adjacent to the river corridor in Sections 9, 10, 15, 16, 21 and 22, T.28 N., R.11 E. Of these 144 claims, only 8 have been abandoned or declared to be null and void.

The BLM has classified the entire river as being prospectively valuable ("PV") for geothermal resources. None of the area is considered to be "PV" for other leasable mineral resources and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information it appears that the area does have at least a low and possibly a moderate potential for the occurrence of precious and base metal resources. The number of unpatented mining claims being maintained in the area indicates a serious and continuing interest in these resources. Even though the area does have potential for the occurrence of geothermal resources, no serious interest in that resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments along the creek. Troublesome Creek is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A preliminary permit for a hydroelectric project has been issued by FERC. Proposed facilities within the river corridor consist of a transmission line, a powerhouse, and a diversion structure and penstock. The project capacity will be 3.7 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: County Road 63 crosses above the mouth of the river.

Troublesome Creek Campground (35 sites) is located near the mouth of the river. There is some rip-rap at the campground.

Troublesome Creek Nature Trail (#1079) is adjacent to the campground. It is a 1/2-mile loop trail. Two trail bridges cross Troublesome Creek at its confluence with the North Fork Skykomish.

There are no homes or farms bordering the creek.

Several fish habitat structures were put in during 1985-86: 25 log deflectors, 1 digger log, 1 area of bank seeding/planting, and 2 rock deflectors.

RECREATION ACTIVITIES: The predominant activities are camping, hiking and fishing. Camping receives the heaviest use. Some swimming use is associated with the campground, but cold water acts to limit this activity.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	10	15
Waterplay (swim, wade)	25	35
Fishing, Hunting	245	353
Camping	45,000	67,500
Viewing (hiking, wildlife, driving for pleasure)	2,525	3,840
Misc. (hike, picnic, berry picking, etc.)	390	765
TOTAL	48,195	72,508

WILDLIFE AND FISHERIES: Mountain goats and spotted owls are predominant wildlife in the drainage. Coho and some chinook and pink salmon spawn near the mouth of Troublesome Creek. Further access upstream is blocked by a series of cascades-falls. The creek does support a population of resident rainbow trout.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The Columbia Glacier feeds into Blanca Lake, which in turn drains into Troublesome Creek. The creek exhibits the steep mountain character typical of this area over its entire length. There are numerous cascades, falls and rapids. Eleven tributaries drain into Troublesome Creek. The creek bottom is mainly boulder and rubble.

Water quality is excellent.

GEOLOGY: This creek originates and passes through rugged granitic mountains. Previous glaciation has carved out the valley and oversteepened the sideslopes. Lower sideslopes dominated by stringers of conifers interspersed with deeply dissected and extremely steep side drainages and avalanche tracks merge into upper slopes of barren rock and perennial snow. The numerous side tributaries abound with waterfalls during spring runoff.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Troublesome Creek, and no prehistoric sites are recorded within the proposed Wild and Scenic River corridor. The lack of sites may be a result of the lack of a survey. Historically, the Troublesome Creek drainage was within the territory of the Skykomish Indian tribe. No localities used for traditional religious purposes are known.

The discovery of silver on Lost Creek in 1871 resulted in the filing of additional mining claims up Troublesome Creek. No historic sites are listed on the National Register of Historic Places.

TIMBER: There is some logging in the drainage in conjunction with mining claims. The logging occurs below the Wilderness boundary.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

Total Timber Volume (MMBF)	ASQ: Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	ASQ: Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
23.5	0	0

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: Troublesome Creek has its confluence with the North Fork of the Skykomish River at Troublesome Creek Campground. Rapids near the mouth of the river have been made accessible by construction of the high standard Troublesome Creek Nature Trail. Many visitors are attracted to the North Fork area by its scenic and recreation attractions, and the community of Index (pop. 147). Index is located on the North Fork Skykomish, and benefits economically from the visitors. Traditionally a mining and logging community, Index has also become a magnet for retirees and vacation home owners. The "Index Town Wall" (cliffs) attract many skilled rock climbers who have established numerous routes on the "wall".

CURRENT ADMINISTRATION: The upper 2.3 miles of the creek are inside the Henry M. Jackson Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Troublesome Creek for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 1,000	
Costs of Implementation		500
Development of Management Plan		1,800
Development Costs	15,000	
Operation and Maintenance Costs	1,000	
TOTAL - First Five Years	**$17,000**	**$2,300**

General administration and operation and maintenance costs are estimated to continue at $400 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Semi-Primitive, Non-Motorized Recreation	654
		Wilderness-Transition	42
		Wilderness-General Trailless	696
Segment 2	Scenic	Semi-Primitive, Non-Motorized Recreation	63

WEST CADY CREEK

Snohomish County

West Cady Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters in the Henry M. Jackson Wilderness to the confluence with the North Fork Skykomish River.

Segment 1 - Headwaters in NE 1/4 of Sec. 13, T.28 N., R.12 E. to bridge in Sec. 21, T.28 N., R.12 E. (4.8 miles).

Segment 2 - Bridge to confluence with North Fork Skykomish River (2.7 miles).

RIVER MILEAGE:

Study:	7.5 miles
Eligible:	7.5 miles
Forest Plan:	7.5 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: West Cady Creek was found to possess "Outstandingly Remarkable" values for the following: Wildlife.

There is a golden eagle nest site in the drainage.

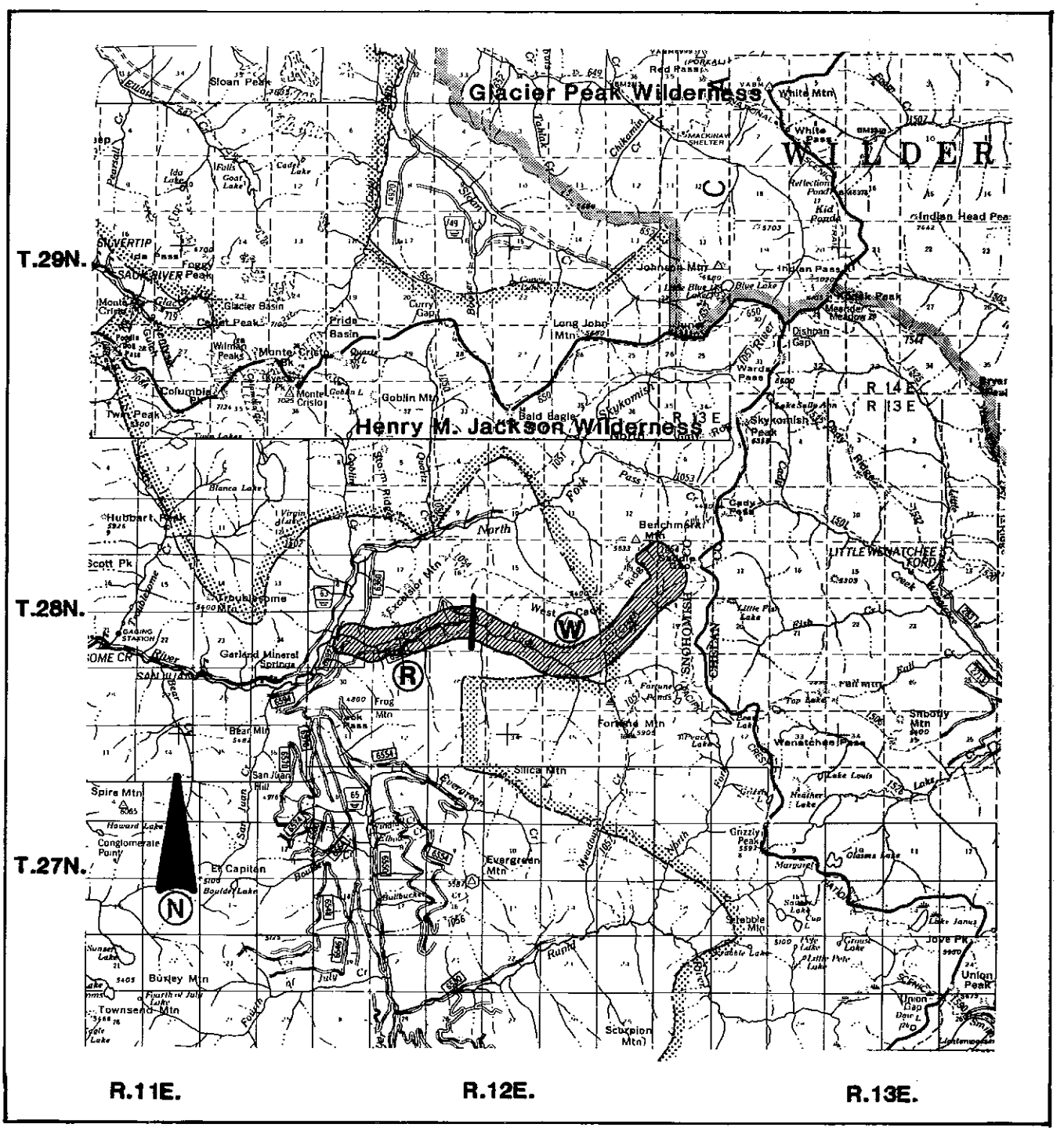
POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	4.8	Wild	4.8
Segment 2	Recreation	2.7	Recreation	2.7

SUITABILITY DETERMINATION:

West Cady Creek was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to little to no resource conflict, and compatibility with the existing Forest Plan land allocation. West Cady Creek has outstandingly remarkable values for wildlife.

West Cady Creek



LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	4.8 miles	1,536 acres
(Henry M. Jackson Wilderness - 2.5 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	2.5 miles	800 acres
Private	0.2 miles	64 acres
TOTAL	7.5 miles	2,400 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither of the river segments are classified by the BLM as areas of critical mineral potential or are encumbered by unpatented mining claims. A review of available literature including the Bureau of Mines MILS data, indicates the river has no reported locatable mineral resource occurrences.

The BLM has classified the entire river as being prospectively valuable for geothermal resources. None of the area is considered to have potential for other leasable mineral resources and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears the area has a relatively low potential for the occurrence of locatable mineral resources. No serious interest in the locatable minerals is currently being expressed. The area does have at least a low potential for the occurrence of geothermal resources. However, as with the locatables, no serious interest in the geothermal potential is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments along West Cady Creek. This creek is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A license application has been completed for a small hydroelectric project on West Cady Creek. Proposed facilities within the river corridor consist of a transmission line, powerhouse, and a diversion structure and penstock. The project capacity would be 4 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: F.S. Road 6580 parallels the river for 2 miles along its lower reaches. Two miles upstream from the mouth, the road crosses to the north side of the creek. The bridge was developed to provide logging access to the area.

There are no homes, farms or developed campgrounds bordering the creek.

RECREATION ACTIVITIES: The West Cady Creek drainage has low recreation use. Limited amounts of camping, hunting and fishing for resident species occurs along its banks. Rafting and kayaking are not suitable and the water is too cold for swimming.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	25	40
Camping	865	1,300
Viewing (scenery, wildlife, driving for pleasure)	4,100	6,230
Misc. (hike, picnic, berry picking, etc.)	160	315
TOTAL	5,150	7,885

WILDLIFE AND FISHERIES: There is a golden eagle nest site in the drainage.

Chinook and coho salmon spawn and rear in the lower mile of the creek. An impassable series of cascades-falls prohibits further migration upstream. Rainbow and cutthroat trout inhabit the entire creek.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: West Cady Creek exhibits the steep mountain character typical of this region over its entire length. There are numerous cascades, falls and rapids. Sixteen tributaries drain into the creek. The bottom of the creek is mainly boulders and rubble.

GEOLOGY: West Cady Creek flows through a steep V-shaped valley dominated by granitic and gneissic bedrock. Lower slope conifers blend into old burn meadow areas on the adjacent ridgetops.

CULTURAL RESOURCES: No systematic archaeological survey has been made of West Cady Creek, and no prehistoric or historic sites are recorded. The lack of sites may be a result of the lack of survey of the drainage. Historically, West Cady Creek was within the territory of the Skykomish Indian tribe. No localities used for traditional religious purposes are recorded.

There are no sites within the proposed Wild and Scenic River corridor listed on the National Register of Historic Places.

TIMBER: The lower three miles of the creek have been extensively clearcut logged.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
51.8	2.810	2.572

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The North Fork Skykomish drainage, providing access to West Cady Creek, has developed campgrounds, dispersed camping opportunities, and several trailheads. Many visitors are drawn to the area by its scenic and recreation attractions.

Index, traditionally a mining and logging community, also has become a magnet for retirees and vacation home owners. The "Index Town Wall" (cliffs) attract many skilled rock climbers who have established numerous routes on the "wall".

CURRENT ADMINISTRATION: The upper 2.2 miles of the creek flow within the Henry M. Jackson Wilderness. The Wilderness and other National Forest lands, are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for West Cady Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 2,000	$ 3,000
Costs of Implementation		3,000
Development of Management Plan		5,000
Development Costs	15,000	80,000
Operation and Maintenance Costs		20,000
Total - First Five Years	**$17,000**	**$111,000**

General administration and operation and maintenance costs are estimated to continue at $5,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	**Management Emphasis**	**Acres**
Segment 1	Wild	Semi-Primitive, Non-Motorized Recreation	781
		Wilderness-Trailled	147
		Wilderness-General Trailless	782
		Timber Management	42
Segment 2	Recreation	Semi-Primitive, Non-Motorized Recreation	168
		Timber Management	633

Skykomish River South Fork

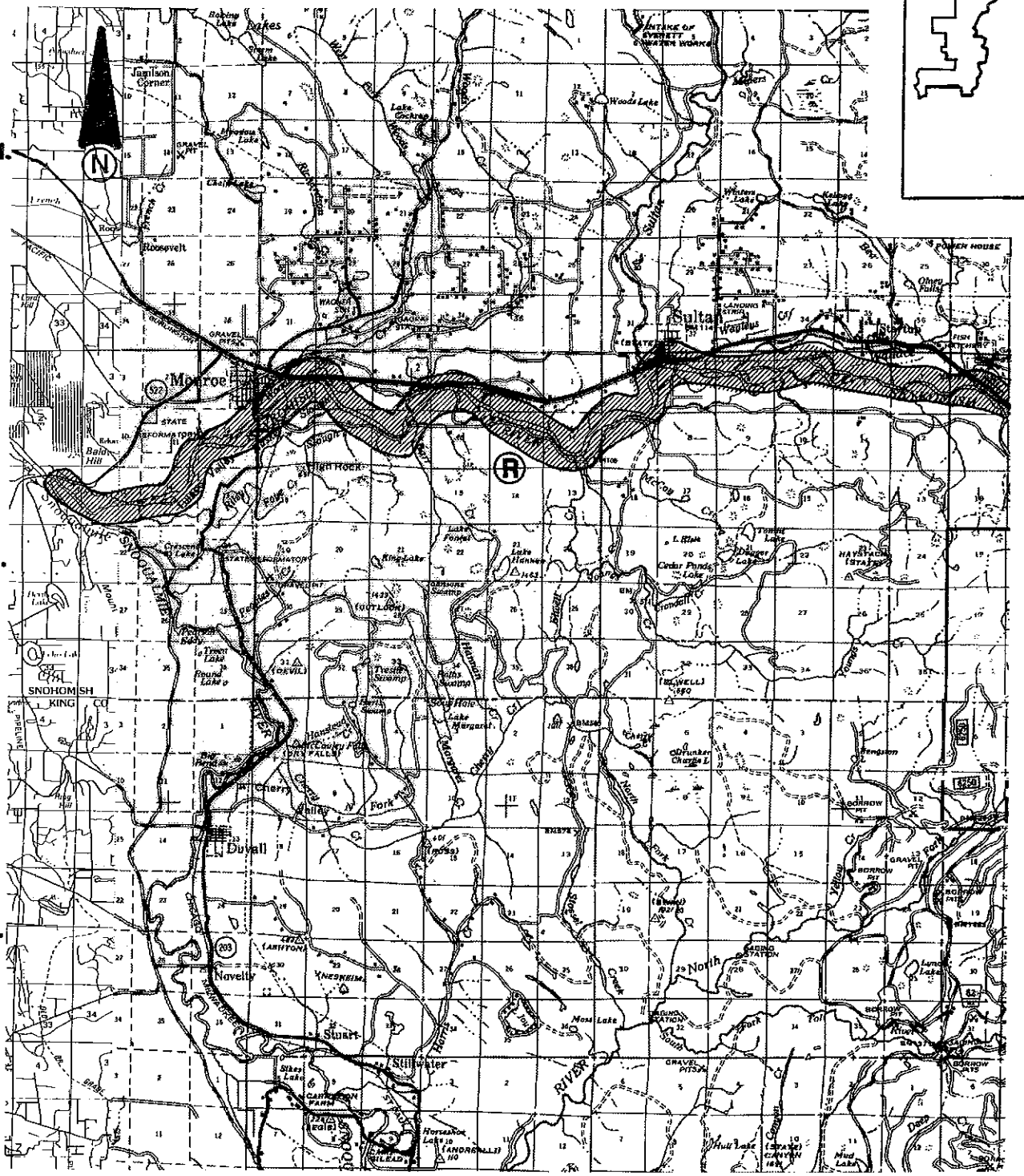
(1)

Potential River Classification

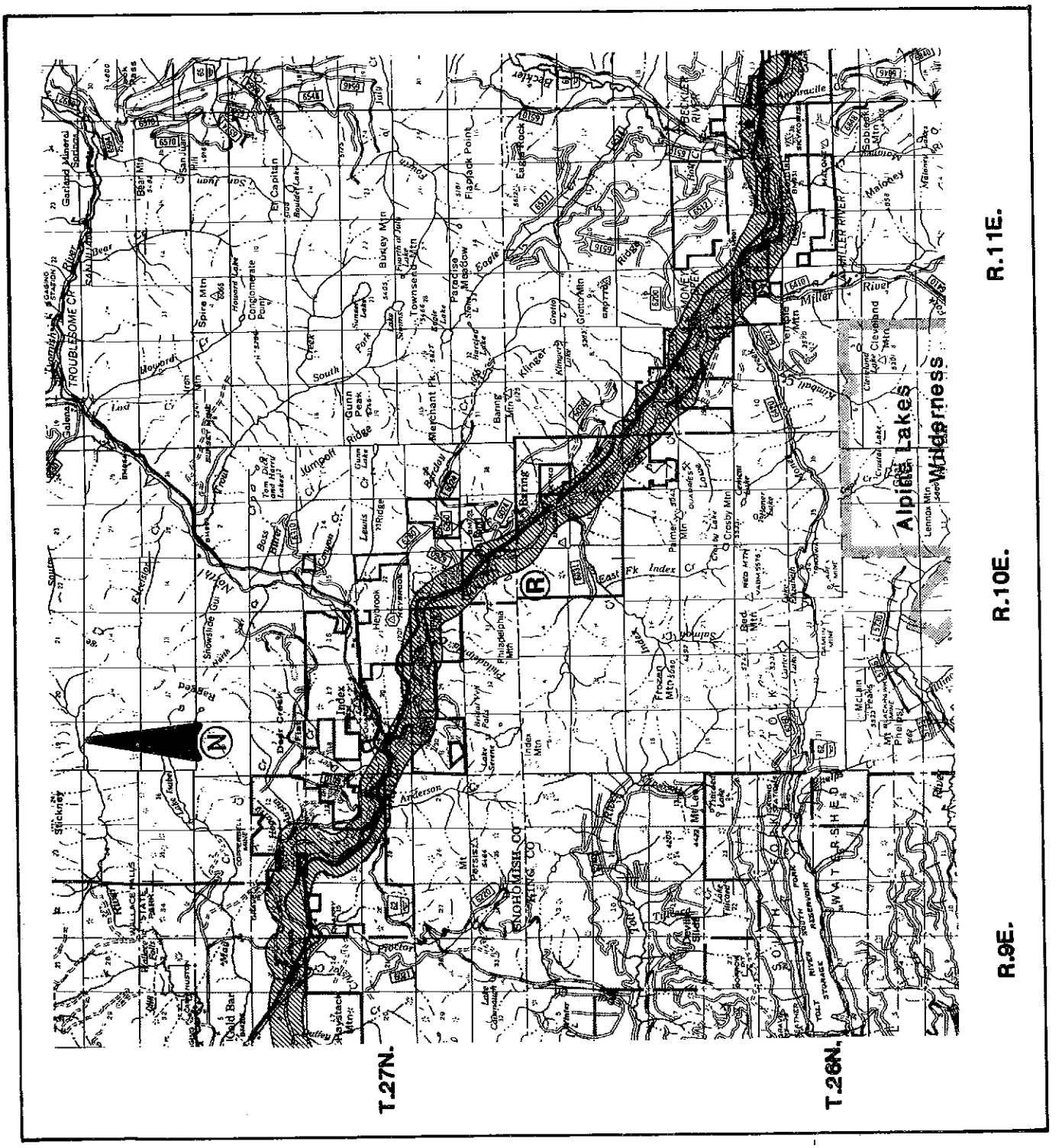
R - Recreational
S - Scenic
W - Wild

River Corridor
Wilderness Boundary
National Forest Boundary

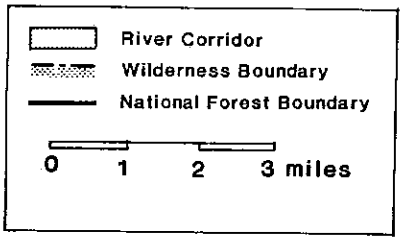
0 1 2 3 miles



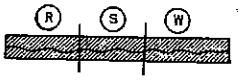
Skykomish River
South Fork
(2)



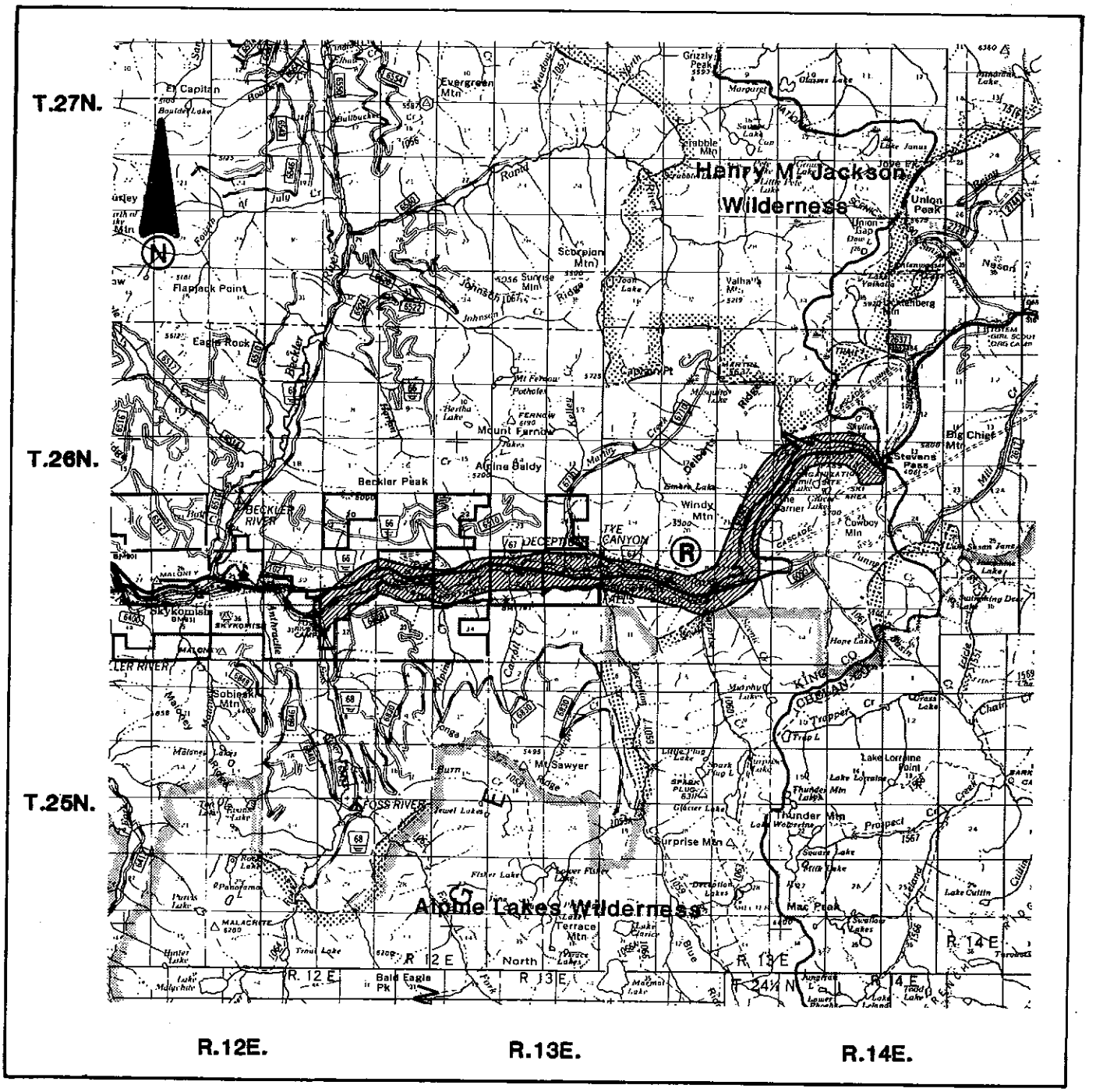
Tye River



Potential River Classification



R - Recreational
S - Scenic
W - Wild



SKYKOMISH RIVER
SOUTH FORK SKYKOMISH RIVER
TYE RIVER

Snohomish and King Counties

The Skykomish, South Fork Skykomish, and Tye Rivers were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Skykomish, South Fork Skykomish, and the Tye Rivers were identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

The Skykomish upstream from Sultan, South Fork Skykomish, and the Tye Rivers are designated by the State of Washington as a Scenic River under the State's Scenic Rivers Act.

LOCATION: The Tye River is under evaluation from its headwaters near Stevens Pass on U.S. Highway 2 downstream to the confluence with the South Fork Skykomish and Foss Rivers. The South Fork becomes the main Skykomish River at the confluence with the North Fork Skykomish River.

Segment 1 - Headwaters of the Tye River in SE 1/4 of Sec. 14., T.26 N., R.13 E. to the confluence with the South Fork Skykomish and Foss Rivers (14.5 miles).

Segment 2 - Confluence of Tye and Foss Rivers to the confluence with the Snohomish River (48.6 miles).

OUTSTANDINGLY REMARKABLE VALUES: The Skykomish, South Fork Skykomish, and Tye Rivers were found to possess "Outstandingly Remarkable" values for the following: Scenic, Recreation, Fisheries, and Wildlife. The Tye River also has values for Historical/Cultural.

The river system has many falls that have become popular viewing sites. One of the most dramatic is Eagle Falls, located 12 miles west of the Ranger Station off of Highway 2. The water cascades to a large emerald green pool. Other falls include Sunset, Bridal Veil, Alpine and Deception Falls. Bridal Veil Falls is located on Bridal Veil Creek, a tributary of the Skykomish. The falls cascade down steep rock cliffs forming 2 "veils" in summer and a solid sheet of blue ice in winter. The falls can be viewed from Highway 2 near Index.

All river segments provide boating opportunities. The Tye provides above average opportunity for kayaking. The main Skykomish River is considered to be one of the most outstanding boating rivers in the state due to its rafting and kayaking runs. Overnight camping opportunities are scattered throughout the area with low to moderate use. Hikers can access the Pacific Crest Trail from Stevens Pass. Many people drive for pleasure along U.S. Highway 2 which gains more than 3000 feet elevation from Skykomish to Stevens Pass, winding its way around steep mountainsides.

Winter range is provided for black-tailed deer and mountain goats. Below Alpine Falls, bald eagles, a federally listed Threatened and Endangered species, forage in winter.

Good spawning and rearing habitat exist for chinook, coho and pink salmon. Winter steelhead, resident rainbow and cutthroat trout also inhabit the waters.

The most significant historic resource in the Skykomish system is the Stevens Pass Historic District. Listed on the National Register of Historic Places, the district is nationally significant. It represents 35 years of effort by the Great Northern Railroad to construct and improve a transcontinental line.

RIVER MILEAGE:

Study:	63.1 miles
Eligible:	63.1 miles
Forest Plan:	42.8 miles recommended for designation in preferred alternative

Note: Recommendation includes the Tye and portion of Skykomish system to Gold Bar.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	14.5	Recreation	14.5
Segment 2	Recreation	48.6	Recreation	28.3

SUITABILITY DETERMINATION:

The Skykomish, South Fork of the Skykomish, and Tye Rivers were found to be suitable for inclusion in the preferred alternative of the Forest Plan due to a very high number of outstandingly remarkable values. The main Skykomish is considered to be one of the most outstanding boating rivers in the state due to its rafting and kayaking runs. A scenic corridor parallels much of the river and provides habitat for bald eagle wintering and foraging. The Skykomish system flows through the Stevens Pass Historic District, a National Register of Historic Places site. The Skykomish is currently the only designated Washington State Scenic River. The Skykomish System was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982.

Designation is recommended downstream on the main branch of the Skykomish only as far as the town of Gold Bar due to private ownership concerns.

The Tye River is recommended as a logical extension of the main Skykomish.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	10.5 miles	3,360 acres
Private	2.0 miles	120 acres
State	2.0 miles	1,160 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	2.3 miles	736 acres
State	2.2 miles	784 acres
Private	44.1 miles	14,032 acres
TOTAL	48.6 miles	15,552 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified by the BLM as lying within an area of critical mineral potential. However, a review of available literature including the Bureau of Mines MILS data does indicate numerous sand and gravel resource occurrences and a few base and precious metal resource occurrences along the river. Of most importance, appears to be limestone deposits in Section 12 and 13, T.26 N., R.10 E. and Sections 15 and 16, T.27 N., R.9 E., gold occurrences in Section 31, T. 28 N., R.8 E., Section 5 and 6, T.27 N., R.8 E. and in Section 7, T.27 N., R.9 E. The BLM mining claim recordation data indicates a few unpatented mining claims (43) have been located in Sections 17, 18, 19, 20 and 21, T.26 N., R.11 E. Of these 43 claims, however, 21 have been abandoned or declared to be null and void, and it is not known what part of the remaining 22 claims lie within the river corridor.

The BLM has classified the western 10 miles as being prospectively valuable ("PV") for oil and gas, the eastern 17 miles as being "PV" for geothermal resources, and the western 16 miles as "PV" for coal resources. However, none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that only a small part of the river has at least a low potential for the occurrence of precious metal resources, and only in Sections 17,18,19, and 20, T.26 N., R.11 E. has any serious interest in locatable minerals been recently expressed. Even though a large part of the area is considered to have at least a low potential for the occurrence of leasable minerals (coal, oil and gas, and geothermal), no serious interest in those resources has been recently expressed.

WATER RESOURCE DEVELOPMENT: The Skykomish River and the lower 8.3 miles of the Tye River are classified as "Protected" from hydropower development by the NW Power Planning Council.

Preliminary permits for hydroelectric projects have been issued by FERC on seven tributary streams to the South Fork of the Skykomish River. Also one license application has been submitted. Following is a list of the tributaries, proposed facilities and the capacity of each project in megawatts:

Tributary	Proposed Facilities within Corridor	Megawatts
Proctor Creek	Transmission line	2.3
Anderson Creek	Transmission line	1.4
Inder Creek	Transmission line	3.4
Lowe Creek	Transmission line	1.7
Money Creek	Transmission line	3.0
Duffy Creek	Transmission line	13.4
Lake Isabel	Transmission line	5.0
Barclay Creek	Transmission line	6.3

No major water diversions are known, but perhaps there are pump stations for agricultural irrigation.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Tye River: Highway 2 parallels the river for the entire segment, crossing the river 3 times. The Stevens Pass Ski Area and associated development occurs within the Tye River near the headwaters. The upper portion includes Highway 2, and F.S. Roads 6099 (Old Cascade Hwy), 050, and 910. The middle section is paralleled by Highway 2 and F.S. Road 6099. The Old Cascade Highway crosses twice via earth covered culverts. The lower section continues to be closely paralleled by Highway 2 and F.S. Road 6810.

The Burlington Northern Railroad parallels the river for the entire segment. The railroad crosses the Tye and enters an underground tunnel (Cascade Tunnel) which goes under the Tye. The Cascade Tunnel is the longest railroad tunnel in the western hemisphere. An abandoned railroad grade parallels the right bank of the upper Tye.

The Pacific Crest Trail passes near the headwaters of the Tye.

Bonneville transmission lines parallel the entire length of the Tye from Stevens Pass to Sultan. They cross the river repeatedly between the confluence with the Foss River and Deception Falls. A buried pipeline crosses the river at Sec. 19, T.27 N., R.10 E. It is no longer in use.

There are a few scattered residences and the small communities of Timberland Village and Scenic. Historically significant townsites on the Tye River are Martin City, Alpine, Corea, and Alpine Camps 1 & 2.

Deception Falls Picnic Area is located off Highway 2 at Deception Creek. A 1/2-mile nature trail leads from the falls to the Tye.

There is rip-rap and a couple of private homes at Profitts Ponds.

South Fork and main Skykomish River: The entire length of the mainstem Skykomish River has developments along its banks. U.S. Highway 2 parallels most of Skykomish, as does the Burlington Northern Railroad. Highway 2 crosses at confluence of the North and South Forks and east of Gold Bar. Highway 522 crosses just below the confluence of Skykomish and Snoqualmie Rivers.

U.S. Highway 2 crosses the South Fork Skykomish 3 times. County roads 12 and 6030 and F.S. Roads 210 and 6020 each cross the river. The railroad crosses 3 times.

There are many powerline crossings over the Skykomish River. The following is a list of the locations:

1. approximately 3 miles west of Sultan in Sec. 11.
2. at confluence of South Fork Skykomish River, North Fork Skykomish and Skykomish
3. 0.1 mile upstream from the confluence of South Fork and Skykomish
4. 1 mile below Baring
5. 0.5 mile below the confluence with the Tye River
6. just above the confluence of the North Fork and Skykomish Rivers

The powerline also runs along the corridor between Baring and Grotto.

There are scattered rural residences and summer vacation residences along the lower stretch of the river. Major communities along the Skykomish include: Gold Bar, Startup, Sultan, and Monroe. Most of the South Fork is bordered by communities (Skykomish, Grotto, Baring), roads (especially U.S. Highway 2), and other developments. There are old bridge crossings at Grotto and Baring.

There is agricultural development on the lower 2/3 of the river.

Money Creek Campground (24 sites) and Picnic Area (4 sites) is the only developed National Forest campground. There is a privately owned and operated campground along the river approximately seven miles southeast of Goldbar.

The High Bridge Site just east of Reiter Road under the Highway 2 bridge is an existing recreation site with proposed improvements. At present it receives high use from illegal ORV users. Plans are to accommodate ORV users elsewhere and improve High Bridge for fishing use.

A high use dispersed camping area is under the bridge in Sultan. This recreation site and High Bridge are susceptible to flooding.

At the confluence of the Skykomish and Snohomish Rivers is the planned Lord Hill Regional Park site. A coalition of government agencies is planning the development of the park for area recreation.

There is a fish hatchery on Wallace River 4 miles above its confluence with Skykomish River.

Rip-rap is found on the South Fork at Money Creek Campground and at Eagle Falls. Eagle Falls has been modified by blasting in 1926. Additional stabilizing materials undoubtedly occur on private land.

There is diking at the town of Skykomish. Remains of old wood diking exist at Milltown (old town site).

RECREATION ACTIVITIES: **Tye River:** There is canoeing and above average kayaking use from Carrol Creek to confluence with Foss River. Fishing for anadromous fish species occurs below Alpine Falls; resident species only above Alpine Falls. There is low use of the river for swimming, due to cold water and lack of opportunities.

Dispersed camping opportunities are scattered throughout the area with low to moderate use. Hikers can access the Pacific Crest Trail from Stevens Pass. A short 1/2 mile loop nature trail starts at Deception Falls Picnic Area and winds along the Tye River and Deception Creek. A wheelchair view point along the trail has been proposed.

Many people drive for pleasure along U.S. Highway 2 which gains more than 3000 feet elevation from Skykomish to Stevens Pass, winding its way around steep mountainsides.

South Fork and main Skykomish Rivers: The river reach between Sunset Falls and Goldbar is heavily used by a number of commercial river rafting companies. From Skykomish to Monroe the river offers a range of canoeing and kayaking from beginner (Class I) to experienced (Class V) with a number of put-in and take-out locations. The river is considered to be one of the most outstanding boating rivers in the state. Use is heavy and increasing yearly. The Ben Howard Public Fishing Area is located between Sultan and Monroe.

Eagle Falls, located 12 miles west of the Ranger Station off of Highway 2, is a favorite spot for swimmers and skindivers. It falls to a large emerald green pool below and is enjoyed by many.

The highest dispersed recreation use is driving for pleasure along U.S. Highway 2, which parallels most of the river. Sunset Falls may be viewed from Highway 2, east of Index. Also known for its beauty is Bridal Veil Falls, located 1/4 mile east of Index on Highway 2. The falls are on Bridal Veil Creek, a tributary of the Skykomish. The falls cascade down steep rock cliffs forming 2 "veils" in summer and a solid sheet of blue ice in winter.

The only developed campground on the river is Money Creek Campground, located 4.2 miles from the Skykomish Ranger District on Highway 2.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	125	210
Waterplay (swim, wade)	675	1,015
Fishing, Hunting	1,545	2,225
Camping	52,120	78,180
Viewing (scenery, wildlife, driving for pleasure)	203,160	308,800
Misc. (hike, picnic, berry picking, etc.)	261,120	511,795
TOTAL	518,745	902,225

Note: The miscellaneous category includes the Stevens Pass Ski Area use.

WILDLIFE AND FISHERIES: Tye River: There is bald eagle wintering and foraging habitat below Alpine Falls, as well as an anadromous fish run of chinook and coho salmon. Some winter steelhead and resident rainbow and cutthroat trout also inhabit the waters.

The river area offers an extensive black-tailed deer winter range, and excellent riparian and furbearer habitats.

South Fork and main Skykomish Rivers: Notable species or habitats include bald eagle (a federally listed Threatened and Endangered species), spotted owl, and winter range for mountain goat and deer.

There is good spawning and rearing habitat for chinook, coho, and some pink salmon. The main stem of the Skykomish is heavily utilized. In the upper area, Cass Pond was created in the lower 1/4 mile of Anthracite Creek for trout rearing and production of juvenile fish. Adult salmon are captured at Sunset Falls fishing trap, hauled four miles and released above Eagle Creek by the State. There is also a state salmon hatchery between Startup and Goldbar. In the lower area, the bottom has ideal spawning gravel with superb salmon production in the main channels. There is a large rearing pond on Wagleys Creek for rearing coho and a state salmon hatchery on Wallace River. In this area there are large deep pools and long glides used as resting areas and holding waters for the maturation of adult salmon.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Tye River: For the first three miles, the Tye River falls through a narrow, steep-sloped, densely forested valley. Then for seven miles, the valley alternately widens and narrows. The river exhibits a steep gradient in a confined channel. About 3 1/2 miles from its confluence with the Foss, the river gradient becomes moderate and the channel winds across a relatively flat valley floor. There are numerous channel splits with good to excellent pool-riffle conditions. The banks are low earth cuts, and there are many logs and related debris in the streambed. In the lower mile, the gradient again becomes moderately steep with a number of cascades and rapids, a few fast riffles, and large deep pools. The nineteen tributaries exhibit steep mountain features throughout, and many fall directly off steep side slopes into the river. Alpine Falls, 5.1 miles east of the Ranger Station, has a 50 foot drop.

South Fork and main Skykomish River: The river is situated in a confined valley with high mountain ranges of moderate to moderately steep slopes. A large channel split near Grotto forms a rock island about .5 mile in length covered with deciduous growth. On the south side of the rock island, a large island of sand and gravel is formed in the main river at the mouth of Money Creek. The river gradients descend gradually at the rate of under twenty feet a mile. Five and a half miles beyond Grotto, just below Barclay Creek, the river falls rapidly for three miles. Eagle Falls (28 feet), Canyon Falls (48 feet), and Sunset Falls (88 feet) form a series of cascades and falls. Below Sunset Falls, the river returns to a moderate gradient with mostly pool riffles. At the confluence of the North Fork and the South Fork, the main stem enlarges and slows down as it enters a more gradual gradient in the lower valley. The valley goes from 1/4 mile to 3 miles wide. In the Sultan area, the valley floor is flat, cleared land with side valley terrain that rises gradually and is densely forested with mixed coniferous and deciduous trees. There are extensive channel splits winding through large islands of gravel.

Excellent pool-riffle and long glide areas prevail with moderate gradient throughout. The river retains this character to its confluence with the Snohomish River at Monroe. Forty tributaries drain into the Skykomish River. Stream flows reach a maximum in late May and early June with over 7000 cubic feet per second (cfs) at the Goldbar stream gauge. The low flows occur in late August at about 1000 cfs.

GEOLOGY: The bedrock geology is dominated by granitic and metasedimentary rocks. Upper river basins are predominantly V-shaped but become U-shaped downslope where previous glaciation has been a dominant influence. Glacial till and lacustrine materials are common surficial deposits. The Skykomish River basin becomes very wide in the downstream reaches.

CULTURAL RESOURCES: No systematic archeological survey has been made of the Skykomish. However, information is available from a number of surveys made in conjunction with Federal projects, and from published historical sources.

Few prehistoric sites have been recorded to date. Known sites are believed to represent the period shortly before white exploration and settlement, but contain relatively little distinctive material. During the historic period, the area was occupied by the Skykomish and Snohomish Indians. Localities used in traditional religious practices exist along the Skykomish.

Historic period sites represent logging, mining and railroading. Logging of the Skykomish began in 1860 and produced numerous mills and some miles of logging railroad. By the 1930's, much of the private timber had been removed. Limited production of gold and copper ores occurred in the Index, Silver Creek and Miller River districts. The Silver Creek district was one of the earliest established in the Cascades (1871). Production was at a peak between 1880 and 1900, but was never very great. Sporadic activity continued until World War II.

The most significant historic resource in the Skykomish system is the Stevens Pass Historic District. Listed on the National Register of Historic Places, the district is Nationally significant. It represents 35 years of effort by the Great Northern Railroad to construct and improve a transcontinental line. The line contributed substantially to the economic development of Washington State. The district includes a segment of railroad's Cascade crossing, with numerous engineering features such as switchbacks, snowsheds and tunnels that were unusual or unique engineering achievements in their day. The historic district runs from Martin Creek drainage easterly up over Stevens Pass to Berne Camp on the eastside.

TIMBER: Extensive logging has taken place on both rivers, on private, state and federal lands, especially below the town of Scenic.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

Total Timber Volume (MMBF)	ASQ: Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	ASQ: Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
143.2	3.411	3.311

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: The Tye River has no livestock grazing. There is some localized grazing below Sultan on private property along the Skykomish River.

SOCIO-ECONOMIC EFFECTS: The Skykomish River, the South Fork of the Skykomish and the Tye River are paralleled by U.S. Highway 2, a major link between western and eastern Washington, crossing the North Cascades at Stevens Pass. Communities along the rivers and highway are Monroe, Sultan, Startup, Gold Bar, Index, Grotto, Baring and Skykomish.

These communities derive their support increasingly from tourism and recreation. The ski area at Stevens Pass draws many visitors, in addition to those who utilize the area for hiking, camping, climbing, fishing, hunting, river rafting, cross-country skiing and ORV use. The scenic qualities of the rivers, mountains and forest also attract many sightseers.

Local businesses serve these visitors with restaurants, hotels, rafting and guide outfits, ski rental and camping supply stores, and grocery/gas stations.

Timber harvesting and the wood products industry have traditionally and continue to be important to the economic health of the area. Some mining activity can still be found.

Monroe, with its close proximity to Seattle and Everett, serves increasingly as a bedroom community to both, and houses a state prison facility and Valley General Hospital.

CURRENT ADMINISTRATION: National Forest lands along the Skykomish River System are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. The area from east of Grotto to the headwaters of the Tye are within the Alpine Lakes Management Unit. Management direction is found in the Alpine Lakes Management Plan.

Under the guidelines of the Washington State Shoreline Management Act of 1971, most of the shorelines of the Skykomish, South Fork and Tye Rivers are classified by King and Snohomish Counties as Conservancy. This classification is applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A small suburban development lies inside the loop of the river near Sunset Falls and Canyon Falls. This area is classified as a Flood Hazard Zone and may not be developed. For approximately 2 1/2 miles between the forks of the rivers, the area has been classified as Natural. A Natural designation denotes areas

characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relatively intolerant of intensive human use.

The King and Snohomish County Comprehensive Plans have zoned the land along the Skykomish River System, outside of federal jurisdiction, as:

Rural Use or Forestry Use along the Tye and South Fork Skykomish. There are a few residential developments and the town of Skykomish, where a greater dwelling density is permitted.

Forestry Use from the King/Snohomish County line to Gold Bar, with Flood Hazard Zones designated near the communities situated along the river.

Rural Use, with 1 dwelling per 10 acres, from Gold Bar to Sultan.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Skykomish, South Fork Skykomish and Tye Rivers for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 15,000	$100,000
Costs of Implementation		80,000
Development of Management Plan		125,000
Development Costs	291,000	75,000
Operation and Maintenance Costs	115,000	25,000
TOTAL - First Five Years	**$421,500**	**$405,000**

General administration and operation and maintenance costs are estimated to continue at $51,100 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Recreation	Scenic Corridor (Foreground)	42
		Winter Developed Recreation	295
		Timber Management	84
		Alpine Lakes Dispersed Recreation	21
		Alpine Lakes Scenic	2,576
Segment 2	Recreation	Scenic Corridor (Foreground)	147
		Scenic Corridor (Middleground)	337
		Timber Management	147
		Alpine Lakes Scenic	1,245

FOSS RIVER (TO FORK)
EAST FORK FOSS RIVER
WEST FORK FOSS RIVER

King County

The Foss, East Fork Foss, and the West Fork Foss Rivers were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Foss River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: The East Fork Foss River flows from its headwaters on Mt. Daniels' Lynch Glacier to its confluence with the Foss River. The West Fork Foss River flows from its headwaters in Delta Lake to its confluence with the Foss River. The Foss River flows from the confluence of the East and West Forks of the Foss River to its confluence with the Tye River.

Segment 1 - Headwaters of the East Fork Foss River at Lynch Glacier in SW 1/4 of Sec. 11, T.24 N., R.13 E. to the Alpine Lakes Wilderness boundary (6.7 miles).

Segment 2 - Alpine Lakes Wilderness boundary to the confluence with the West Fork Foss River (1.2 miles).

Segment 3 - Headwaters of the West Fork Foss River at Delta Lake to the Alpine Lakes Wilderness boundary (3.1 miles).

Segment 4 - Alpine Lakes Wilderness boundary to the confluence with the East Fork Foss River (1.5 miles).

Segment 5 - Confluence of East and West forks of the Foss River to confluence with Tye River (4.4 miles).

RIVER MILEAGE:

Study:	16.9 miles
Eligible:	16.9 miles
Forest Plan:	16.9 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Foss, East Fork and West Fork Rivers were found to possess "Outstandingly Remarkable" values for the following: Recreation, Fisheries and Wildlife.

Many forest visitors drive the forest road for pleasure or to gain access for hunting, fishing and hiking opportunities. Two very popular hiking trails lead into the Alpine Lakes Wilderness. The Foss River system provides excellent whitewater kayaking opportunities.

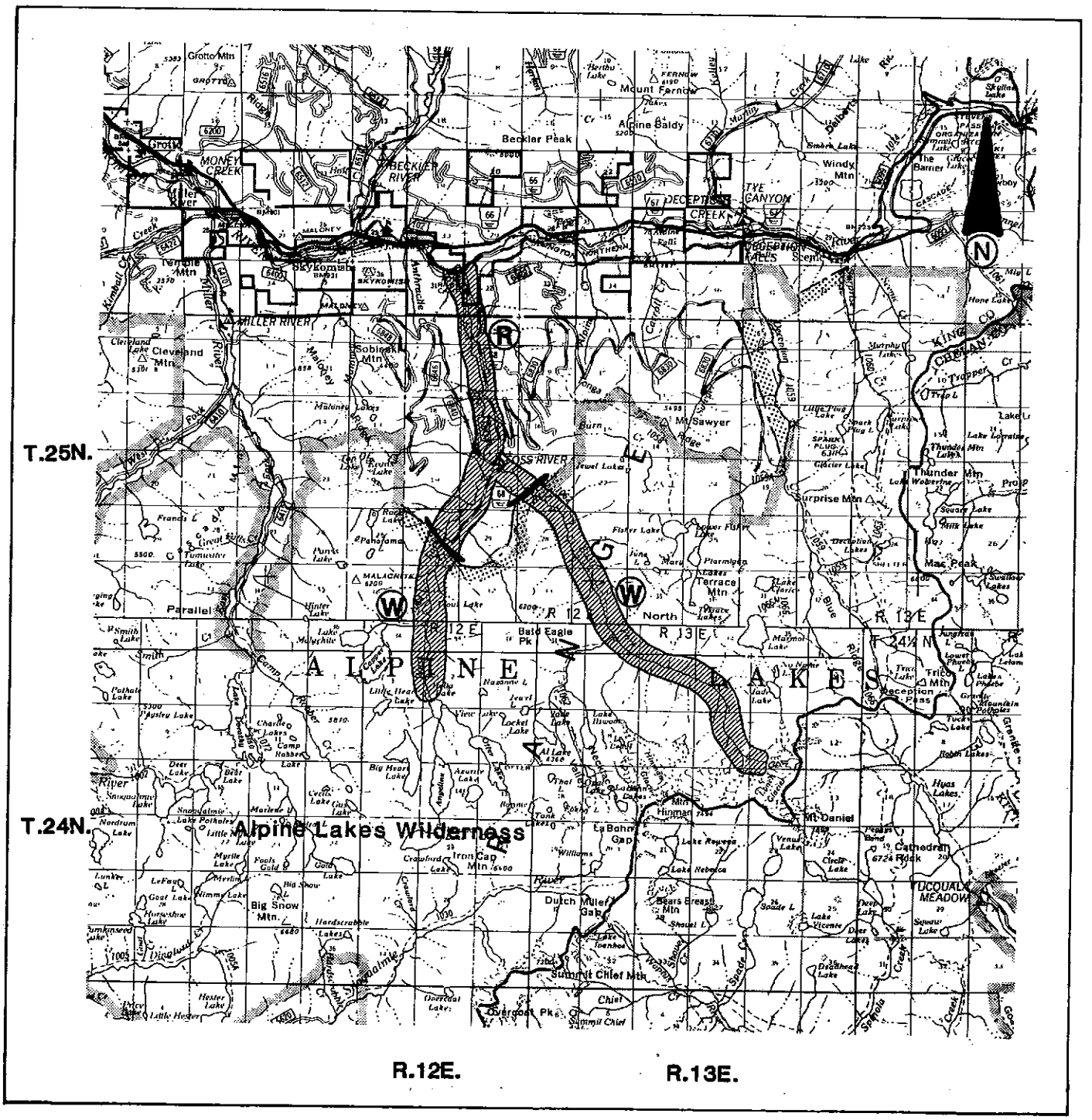
Foss River
East Fork Foss River
West Fork Foss River

River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles

Potential River Classification

R - Recreational
S - Scenic
W - Wild



Bald eagles forage near the mouth of the Foss River and black-tailed deer winter range occurs throughout the drainage. The river also provides excellent furbearer and riparian habitat.

Chinook and coho salmon, rainbow and cutthroat trout inhabit the river system.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	6.7	Wild	6.7
Segment 2	Recreation	1.2	Recreation	1.2
Segment 3	Wild	3.1	Wild	3.1
Segment 4	Recreation	1.5	Recreation	1.5
Segment 5	Recreation	4.4	Recreation	4.4

SUITABILITY DETERMINATION:

The Foss, West Fork Foss, and East Fork Foss Rivers were found to be suitable for inclusion in the preferred alternative of the Forest Plan due to a lack of competing resource values or uses, high public support, and other public agency support. The potential hydro-electric projects on tributaries of the Foss system would not be ruled out due to designation. The Foss system was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	6.7 miles	2,144 acres
(Alpine Lakes Wilderness - 6.7 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.7 mile	224 acres
Private	0.5 mile	160 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	2.5 miles	800 acres
(Alpine Lakes Wilderness - 3.1 miles)		
Private	.6 mile	192 acres
Segment 4		
Mt. Baker-Snoqualmie National Forest	1.3 miles	416 acres
Private	.2 mile	64 acres
Segment 5		
Mt. Baker-Snoqualmie National Forest	3.3 miles	1,056 acres
Private	1.1 miles	312 acres
State	0.0 miles	40 acres
TOTAL	16.9 miles	5,408 acres

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified as lying within areas of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, does indicate the area has a few precious and base metal resource prospects, none of which have a history of production. According to the BLM mining claim recordation data, only one mining claim has been located along the corridor. However, it has been abandoned.

The BLM has classified the entire river as being prospectively valuable for geothermal resources and for coal resources. None of the area is encumbered by mineral leases or lease applications.

Based upon the available information, it appears the area does have at least a low potential for the occurrence of locatable mineral resources. No serious interest in such resources is currently being expressed. The area also has at least a low potential for the occurrence of both coal and geothermal resources. However, as with the locatables, no serious interest in those resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on any of the rivers.

The entire river system, with the exception of the East Fork Foss above Necklace Valley, is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A preliminary permit for a hydroelectric project has been issued by FERC for Burn Creek, a tributary of the Foss River. Proposed facilities within the river corridor consist of a transmission line. The project capacity will be 3.4 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: A county road parallels the Foss River upstream from its mouth, crossing the river at "Foss River Camp", just above the confluence with the Tye River. The county road becomes FS Road #68, and continues along the east bank of the Foss River and the West Fork Foss to the Alpine Lakes Wilderness boundary. The road crosses the East Fork Foss near the confluence of the two forks.

FS Collector Road 6840 crosses the Foss River below the confluence of the two forks and parallels the right bank downstream for 1.5 miles.

There are no roads paralleling the East Fork Foss. However, an old mining railroad grade parallels the river for 1-2 miles.

The Burlington Northern Railroad parallels the Foss on the west for 1.4 miles, crosses the river and heads back north to the SR 2 Highway corridor. This curious detour originated around the turn of the century when many coal claims existed on the Foss.

Three vehicle and one railroad bridge cross the river.

Many private summer homes are found along the lower 2 miles of the Foss River. Some homes are within 100 feet of the river.

The East Fork Foss Trailhead #1062 is located on Forest Road #68 near the confluence of the East and West Forks. The trail parallels the East Fork Foss River for 4 miles to the junction of the Necklace Valley Trail #1063. The West Fork Foss Lakes Trailhead #1064 begins at the end of Forest Road #68 and follows the West Fork Foss River for 1.5 miles to Trout Lake, before heading uphill to Big Heart Lake.

There are no developed campgrounds along the river system, and limited opportunities exist for their construction. The old Foss River Campground is located near the confluence of the East and West Forks. It is now used as a primitive campsite.

RECREATION ACTIVITIES: Many forest visitors drive the forest road for pleasure or to gain access for hunting, fishing and hiking opportunities. Two very popular hiking trails lead into the Alpine Lakes Wilderness. Both trails are heavily traveled; summer weekends are usually crowded.

Above the railroad bridge, there are 2 miles of Class IV and V water. This is the last kayak run of this type left in western Washington. There are technical Class III and IV rapids below the railroad bridge. There are no opportunities on the rivers for rafting. There is only occasional use by swimmers due to the cold water temperatures. Fishing for resident fish is a popular pastime.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Waterplay (swim, wade)	160	240
Fishing, Hunting	2,130	3,070
Camping	34,590	51,885
Viewing (scenery, wildlife, driving for pleasure)	7,000	10,640
Misc. (hike, picnic, berry picking, etc.)	16,560	32,460
TOTAL	60,440	98,295

WILDLIFE AND FISHERIES: Bald eagles forage near the mouth of the Foss River and black-tailed deer winter range occurs throughout the drainage. The river also provides excellent furbearer and riparian habitat.

Chinook and coho salmon spawn in the mainstem of the Foss River and the lower reaches of the two forks. Rainbow and cutthroat trout are also found. Loss of streamside cover due to logging may limit further production.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The gradient is moderately steep with fast riffle character, some rapids and a few cascades. River width ranges from 21 to 60 feet wide. Twenty-six tributaries drain into the Foss River system.

GEOLOGY: Originating in massive mountains of granitic bedrock, this river system passes through volcanic and metasedimentary rocks on its way to the Skykomish. Deep V-shaped upper valleys become U-shaped down valley where glaciation has had a dominant influence.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Foss River drainage. Limited information is available from project surveys and published historical sources. No prehistoric sites have been recorded. The lack of sites may reflect the lack of a survey of the drainage. During the historic period, the area was within the territory of the Skykomish Indians. No locations used for traditional religious practices are known within the potential Wild and Scenic River corridor.

Known historic period sites represent mining and logging. The main use of this drainage around the turn of the century was for access to mines in the Snoqualmie drainage. The Dutch Miller Mine was reached from Seattle via the Great Northern Railway line to the Foss Creek Station, then by horse and foot trail up the Foss River to a pass between the Foss and Snoqualmie drainages. The mining company developed an interest in logging along the river and constructed a railroad to connect with the Great Northern line. No sites associated with these uses have been listed or identified as eligible for the National Register of Historic Places.

TIMBER: Clearcuts dominate downstream from the confluence of the East and West Forks.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
55.6	1.114	.144

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The Foss River, paralleled by forest roads, meets the South Fork Skykomish and Tye Rivers 3 miles east of Skykomish (pop. 280).

The West Fork of the Foss River, with its headwaters in the lakes above Delta Lake in the Alpine Lakes Wilderness, is paralleled by one of the most heavily used trails on the district. The thousands of visitors to this area significantly impact the environment as well as the economic climate of the Skykomish Area.

The East Fork of the Foss River, with its headwaters in the Alpine Lakes Wilderness in the well-known Necklace Valley, is bordered by a popular hiking trail, which also draws many of the visitors to this area. The community of Skykomish is about 8 miles from the confluence of the East Fork of the Foss and the Foss Rivers.

Skykomish is traditionally a logging, mining, and railroad community. The town also benefits economically from the many visitors attracted by the scenic and recreation characteristics of the area's rivers, mountains, and forests. Sixty miles from Everett and 75 miles from Seattle, Skykomish is within easy travel distance for thousands of visitors every year. Local businesses cater to campers, hikers, fishers, and hunters, as well as providing hotel facilities for Stevens Pass skiers.

CURRENT ADMINISTRATION: Downstream from their headwaters, the East Fork Foss flows through 6.7 miles of the Alpine Lakes Wilderness and the West Fork flows through 3.1 miles. Public lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This river is in the Alpine Lakes area under management direction found in the Alpine Lakes Management Plan.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the Foss River has been classified as Conservancy by King County. This classification is applicable only to lands within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

The land along the east bank of the Foss River, outside of federal jurisdiction, has been zoned by King County for Forestry Use. The land along the west bank has been zoned Rural Use.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Foss, East Foss, and West Foss Rivers for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 2,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		12,800
Development Costs	75,000	10,000
Operation and Maintenance Costs	0	2,500
TOTAL - First Five Years	**$77,000**	**$28,300**

General administration and operation and maintenance costs are estimated to continue at $1,100 annually.

Appendix E
Foss River
East and West Forks

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	295
		Wilderness-Trailled	21
		Wilderness-General Trailless	2,090
Segment 2	Recreation	T&E Species (bald eagle)	21
		Alpine Lakes Scenic	168
Segment 3	Wild	Wilderness-Transition	168
		Wilderness-General Trailless	929
Segment 4	Recreation	T&E Species (bald eagle)	190
		Alpine Lakes Scenic	126
Segment 5	Recreation	T&E Species (bald eagle)	168
		Timber Management	147
		Alpine Lakes Scenic	718

MILLER RIVER (TO FORK)
EAST FORK MILLER RIVER
WEST FORK MILLER RIVER

King County

The Miller, East Fork Miller, and West Fork Miller Rivers were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Miller River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

LOCATION: From their sources in the Alpine Lakes Wilderness to the confluence with the South Fork Skykomish River.

Segment 1 - East Fork Miller River from Lake Dorothy to the Alpine Lakes Wilderness boundary (0.8 miles).

Segment 2 - East Fork Miller River from the Alpine Lakes Wilderness boundary to the confluence with the West Fork Miller River (6.0 miles).

Segment 3 - West Fork Miller River from the headwaters in the SE 1/4 of Section 31, T.24 1/2 N., R.11 E. to the Alpine Lakes Wilderness boundary (2.1 miles).

Segment 4 - W. Fork Miller River from the Alpine Lakes Wilderness boundary to the confluence with the E. Fork Miller River (4.2 miles).

Segment 5 - Miller River from the confluence of the East and West Forks of the Miller River to the confluence with the South Fork Skykomish River (3.7 miles).

OUTSTANDINGLY REMARKABLE VALUES: The Miller River and its East and West Forks were found to possess "Outstandingly Remarkable" values for the following: Recreation, Fisheries and Wildlife.

The very popular Lake Dorothy trailhead is located at the end of the East Fork Miller River Road. Area roads are used for pleasure driving. Fishing and kayaking are also popular activities.

The river corridor contains winter range for mountain goats and bald eagles. A SOHA has been identified on the West Fork.

Chinook and coho salmon spawn and rear in the drainage. Resident rainbow trout also inhabit the waters.

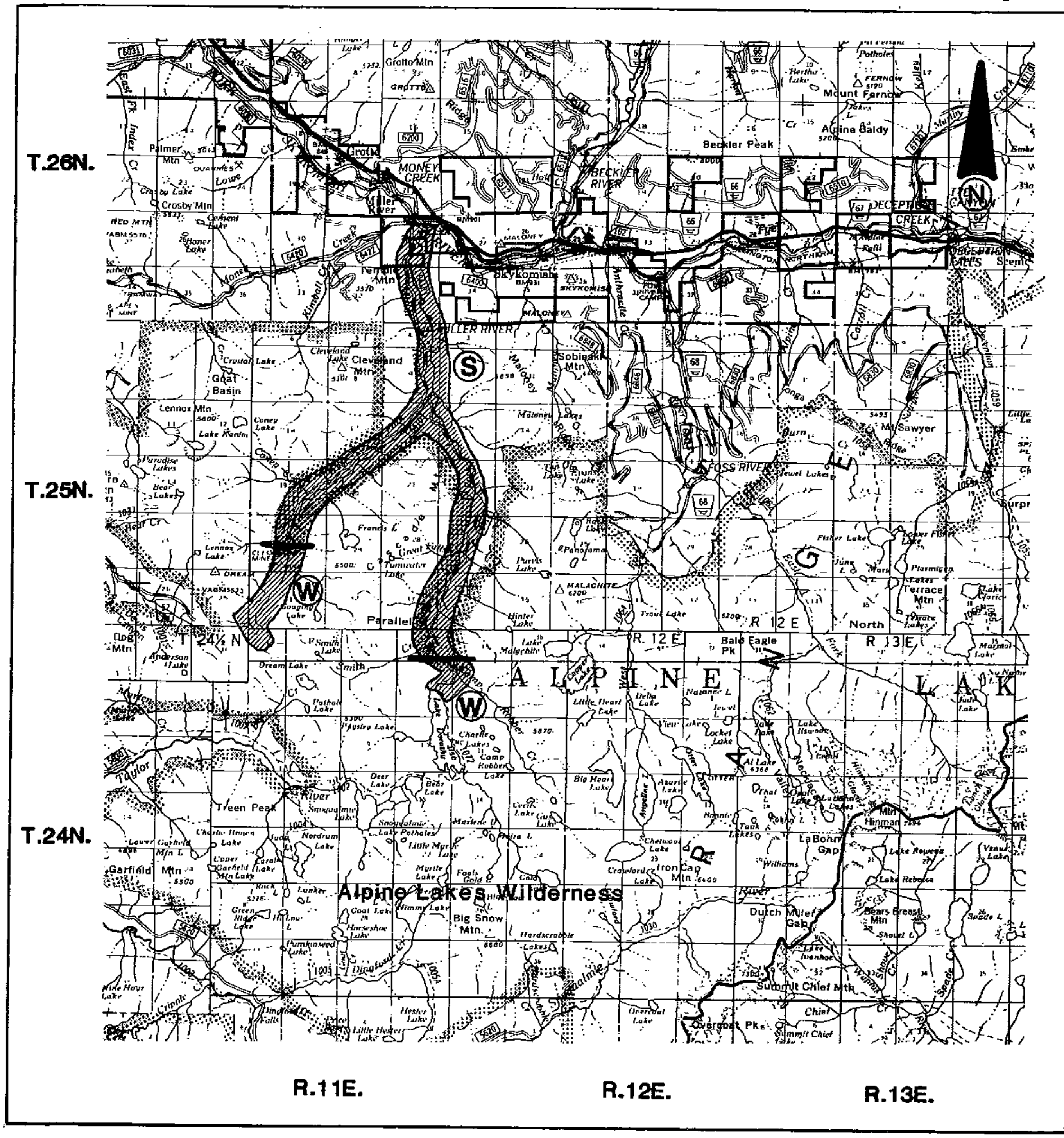
Miller River
East Fork
West Fork

River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles

Potential River Classification

R – Recreational
S – Scenic
W – Wild



RIVER MILEAGE:

Study:	16.8 miles
Eligible:	16.8 miles
Forest Plan:	16.8 miles recommended for designation in preferred alternative

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	0.8	Wild	0.8
Segment 2	Scenic	6.0	Scenic	6.0
Segment 3	Wild	2.1	Wild	2.1
Segment 4	Scenic	4.2	Scenic	4.2
Segment 5	Scenic	3.7	Scenic	3.7

SUITABILITY DETERMINATION:

The Miller, East Fork Miller and West Fork Miller Rivers were found to be suitable for inclusion in the preferred alternative of the Forest Plan due to the lack of competing resource values and other public agency support. The potential hydro-electric value is incompatible with the Forest Plan land allocation. The Miller system was identified as a potential Wild and Scenic river in the Nationwide Rivers Inventory published by the National Park Service in 1982.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest	0.8 miles	256 acres
(Alpine Lakes Wilderness - 0.8 miles)		
Segment 2		
Mt. Baker-Snoqualmie National Forest	6.0 miles	1,920 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	2.1 miles	672 acres
(Alpine Lakes Wilderness - 2.1 miles)		
Segment 4		
Mt. Baker-Snoqualmie National Forest	4.0 miles	1,280 acres
Private	0.2 miles	64 acres
Segment 5		
Mt. Baker-Snoqualmie National Forest	2.9 miles	928 acres
Private	0.8 miles	256 acres
TOTAL	16.8 miles	5,376 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified by the BLM as areas of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, however, does indicate the river corridor and adjacent areas have numerous reported occurrences of gold, silver, copper, zinc and antimony. Of most significance are those occurrences reported to lie in Sections 10, 17, 24, 27 and 30, T. 25N., R.11 E. The BLM mining claim recordation data also indicates that 68 unpatented mining claims have been located in or adjacent to the river corridor. Of these 68 claims, however, 39 have been abandoned or declared to be null and void. The remaining claims lie within Sections 17, 19, 20, 30, T.25N., R.11 E. and in Sections 1 and 2, T. 24 N., R11 E.

The BLM has classified the entire river segment as being prospectively valuable ("PV") for geothermal resources and has classified 4 miles near the north end as "PV" for coal resources. However, none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it does appear that the area as a whole does have at least a low potential and the West Fork has a moderate potential for the occurrence of both precious and base metal mineral resources. The mining claims located along the West Fork indicate a continuing interest in that area's locatable mineral resources. The area also has a potential for the occurrence of both coal and geothermal resources, however, no serious interest in those resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on the rivers. The river system is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A preliminary permit for a hydroelectric project has been issued by FERC. Proposed facilities within the river corridor consist of a transmission line, a powerhouse, and a diversion structure and penstock. The project capacity will be 5.9 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: County Road 6410 parallels the Miller River from its mouth to the confluence of the East and West Forks. The road continues up the East Fork, becoming FS Road 6412, ending at the Wilderness boundary.

FS Road 210 crosses 3/4 mile below the confluence of the West and East Forks. Local FS Roads 110, 120, and 130 are within 1/4 mile of the west bank in the upper half of the Miller. County Road 64 crosses 1/4 mile above the confluence with the South Fork Skykomish.

Three vehicle bridges and one railroad bridge cross the rivers.

Seven summer homes line the Miller River in T.25N., R.11 E., Section 9.

The Miller River Campground is located 1 1/2 miles downstream from the East Fork and West Fork junction.

The Lake Dorothy Trail #1072 begins at the end of FS Road 6412. The trail parallels the river for 2 miles to its headwaters at Lake Dorothy. This is a popular and crowded trail on weekends.

There have been some fish habitat projects on the Miller River. One mile upstream, several structures were put in the side channels in 1986-87: 23 digger logs, 10 boulder pools, 2 rock deflectors/groins, 6 boulder clusters, and 20 log deflectors.

Diking has been constructed at the confluence with the Skykomish River. The first mile above the confluence was diked in the early 1900's.

RECREATION ACTIVITIES: The very popular Lake Dorothy trailhead is located at the end of the East Fork Road. The roads are also popular for pleasure driving.

Fishing is a popular activity along the banks of the river. Swimmers occasionally use the rivers, but cold water limits use. The Miller River is a Class III to IV kayak run from the confluence of the East and West Forks to the South Fork Skykomish River.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Waterplay (swim, wade)	65	100
Fishing, Hunting	500	720
Camping	18,480	27,720
Viewing (scenery, wildlife, driving for pleasure)	2,300	3,500
Misc. (hike, picnic, berry picking, etc.)	6,700	13,100
TOTAL	28,045	45,140

WILDLIFE AND FISHERIES: The river drainage supports winter range for mountain goats and bald eagles. A SOHA has been identified on the West Fork.

Chinook spawn primarily in the mainstem of the Miller River. Coho use the two forks and shallow side channels. The juveniles rear throughout these waters, with coho having year round habitation. Resident rainbow trout are found throughout the drainage. Fish production is limited by a series of falls on the West Fork and loss of streamside cover, due to logging and increased development along the shorelines of the rivers.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The gradient is moderately steep. River width averages approximately 30 feet. The upper East Fork has numerous falls and cascades. At 6 miles, there is a 20-foot waterfall. Thirty tributaries drain into the Miller River system.

GEOLOGY: Originating in massive mountains of granitic bedrock, these river systems pass through volcanics and metasediments. Deep V-shaped upper valleys give way to broader U-shaped glacial valleys downstream where previous glaciation has had a dominant influence. These are high energy systems as evidenced by braiding and high bedloads.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Miller River drainage, and no prehistoric sites are recorded. The absence of sites is probably a result of lack of a survey. During the historic period, the drainage was within the territory of the Skykomish Indians. No locations used for traditional religious practices are known within the proposed Wild and Scenic River corridor.

Several mining claims were made in the vicinity of the West Fork during the late nineteenth and early twentieth centuries. Logging, recreation and Forest Service administration sites are also represented within the drainage. None of these are listed or identified as eligible for the National Register of Historic Places.

TIMBER: Land along the lower 2 miles of the Miller River is cut-over to the river. Public lands from the East and West Fork confluence to the South Fork Skykomish is primarily alder with scattered patches of old growth coniferous species. Above the confluence of the two forks, primarily old growth can be seen with scattered clearcuts present.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
72.7	1.751	2.643

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The East Fork of the Miller River begins at well-known Dorothy Lake in the Alpine Lakes Wilderness. The thousands of visitors to this area impact the environment as well as the economic climate of the Skykomish area.

The community of Skykomish is 5 miles from the confluence of the West Fork and the East Fork of the Miller River. Traditionally a logging, mining, and railroad centered community, Skykomish also benefits economically from the many visitors drawn by the scenic and recreation characteristics of the area's rivers, mountains and forests. Sixty miles from Everett and 75 miles from Seattle, Skykomish is within easy travel distance for thousands of visitors every year. Local businesses cater to campers, hikers, fishers, and hunters, as well as providing hotel facilities for Stevens Pass skiers.

CURRENT ADMINISTRATION: The first 0.8 miles of the East Fork and 2.1 miles of the West Fork are located inside the Alpine Lakes Wilderness. The wilderness and other National Forest lands are administered by Mt. Baker-Snoqualmie National Forest, USDA Forest Service. These rivers are in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the Miller River has been classified as Conservancy by King County. This classification is applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

The land near the confluence of the Miller River and South Fork Skykomish, outside of federal jurisdiction, has been zoned by King County for Rural Use, with 1 home per 5 acres. The remainder of the river corridor is zoned for Forestry Use.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Miller, East Fork Miller and West Fork Miller Rivers for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 2,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		10,900
Development Costs	56,000	10,000
Operation and Maintenance Costs	40,500	2,500
TOTAL - First Five Years	**$98,500**	**$26,400**

General administration and operation and maintenance costs are estimated to continue at $9,200 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies lands administered by the National Forest Service.)

Appendix E
Miller River
East and West Forks

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	84
		Wilderness-General Trailless	211
Segment 2	Scenic	Old Growth Habitat (spotted owl)	253
		Goat Habitat	42
		Timber Management	42
		Alpine Lakes Dispersed Recreation	211
		Alpine Lakes Scenic	739
Segment 3	Wild	Wilderness-General Trailless	823
Segment 4	Scenic	Alpine Lakes Dispersed Recreation	696
		Alpine Lakes Scenic	105
Segment 5	Scenic	Goat Habitat	21
		T&E Species (bald eagle)	21
		Timber Management	232
		Alpine Lakes Scenic	380

BECKLER RIVER
RAPID RIVER

Snohomish and King Counties

The Beckler and Rapid Rivers were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Beckler River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982.

The Beckler River, upstream to the Rapid River, is designated by the State of Washington as a Scenic River under the State's Scenic Rivers Act.

LOCATION: The Beckler River flows from its headwaters near Jack Pass to its confluence with the Tye and South Fork Skykomish Rivers.

The Rapid River flows from its headwaters on Scrabble Mountain to its confluence with the Beckler River.

Segment 1 - The headwaters of the Beckler at Jack Pass in the NW 1/4 of Section 31, T.28 N., R.12 E. to the confluence with the South Fork Skykomish River (13.5 miles).

Segment 2 - The headwaters of Rapid River upstream from Janus Lake in the SE 1/4 of Section 13, T.27 N., R.13 E. to the Henry M. Jackson Wilderness boundary (7.0 miles).

Segment 3 - The Henry M. Jackson Wilderness boundary to the confluence with the Beckler River (6.0 miles).

RIVER MILEAGE:

Study:	26.5 miles
Eligible:	26.5 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Beckler and Rapid Rivers were found to possess "Outstandingly Remarkable" values for the following: Recreation, Fisheries, and Wildlife.

There are numerous camping opportunities along the Beckler and Rapid Rivers. All receive high use. Sightseers can complete a scenic loop trip by driving up the North Fork Skykomish Road out of Index, climb over Jack Pass and drop down into the Beckler Valley to Skykomish. Fishing for resident rainbow trout is a moderate to high use activity. Class III kayaking with some portages is found from the confluence of the Rapid and Beckler Rivers downstream to the mouth of the Beckler.

An extensive winter habitat for bald eagles and black-tailed deer is found along the corridors of both rivers. Spotted owls and mountain goats inhabit the Rapid River drainage.

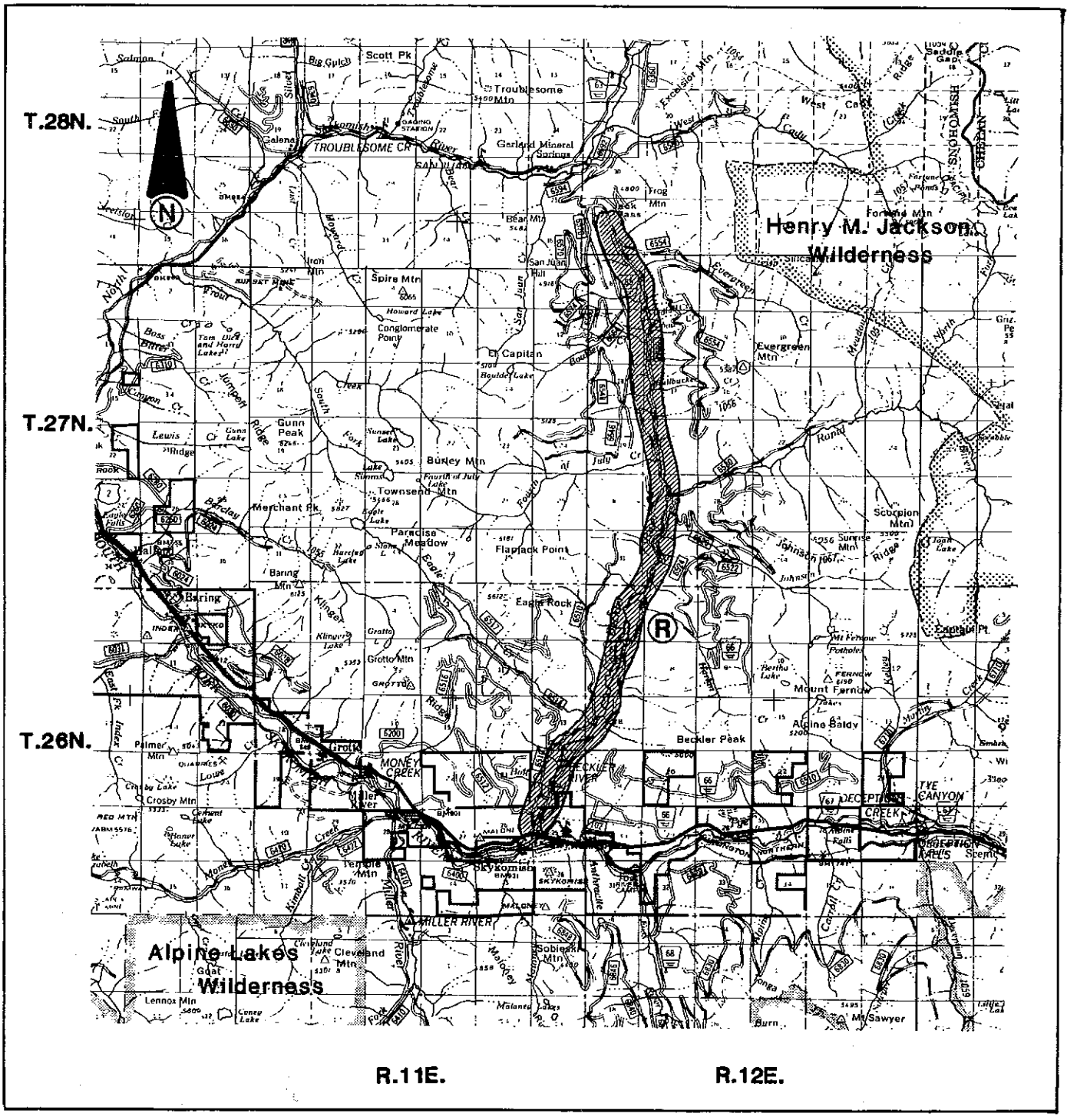
Beckler River

River Corridor
Wilderness Boundary
National Forest Boundary

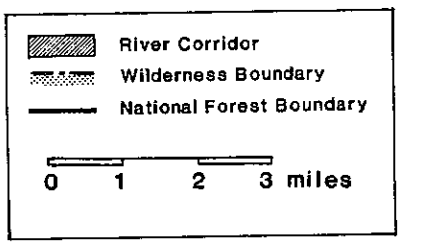
0 1 2 3 miles

Potential River Classification

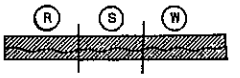
R - Recreational
S - Scenic
W - Wild



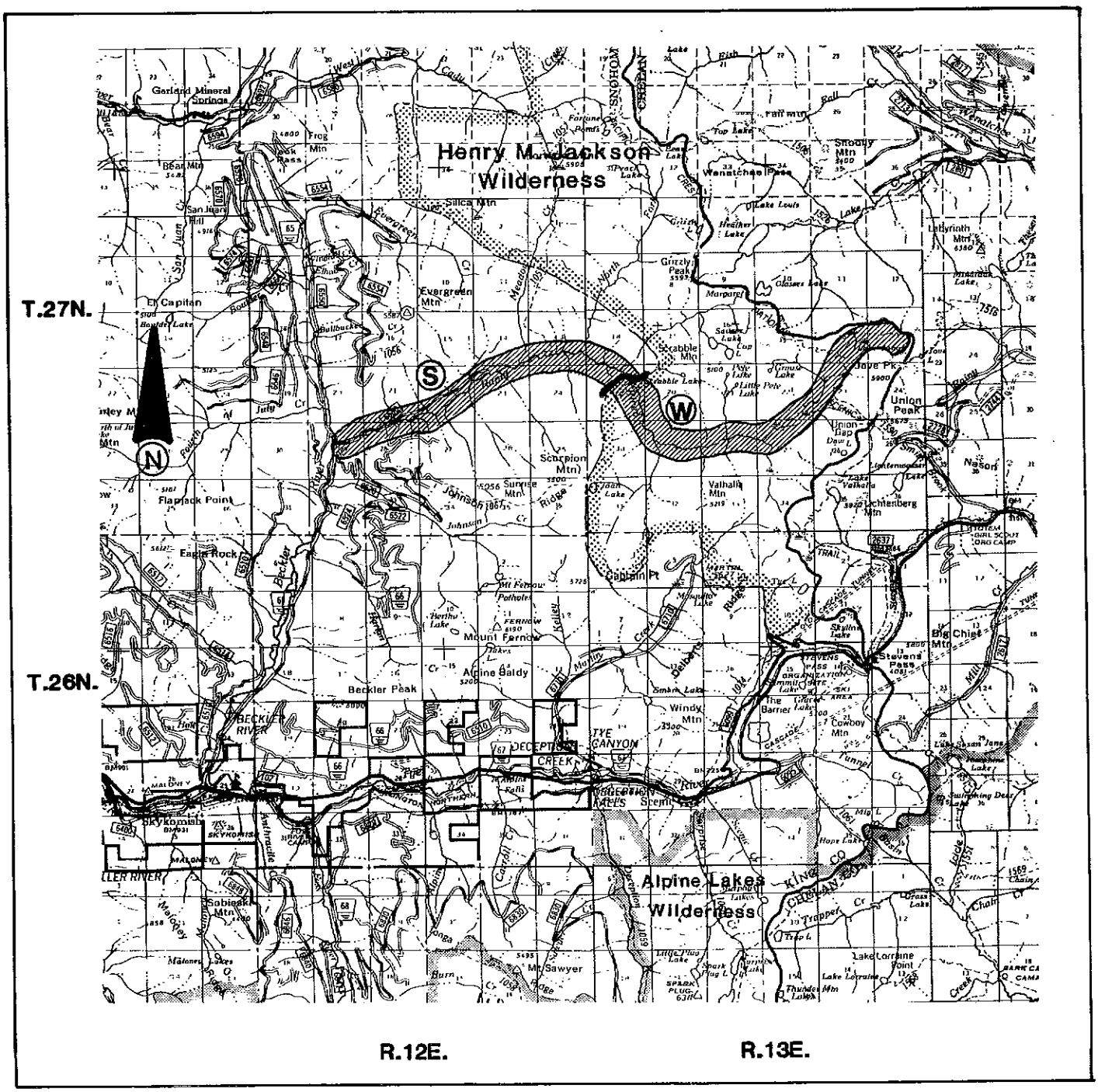
Rapid River



Potential River Classification



R - Recreational
S - Scenic
W - Wild



Both rivers support runs of steelhead trout, chinook, and coho salmon. The Beckler also receives use from chum and sockeye salmon.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	13.5	Not recommended	0.0
Segment 2	Wild	7.0	Not recommended	0.0
Segment 3	Scenic	6.0	Not recommended	0.0

SUITABILITY DETERMINATION:

The Beckler and Rapid Rivers were found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to high competing resource values and the presence of extensive clearcut logging in both drainages. Preliminary permits for 8 hydro-electric projects have been issued by the FERC.

The Rapid River is not a logical addition to the system, unless the Beckler River was also found to be suitable.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	9.3 miles	2,976 acres
Private	3.2 miles	984 acres
State	1.0 miles	360 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest (Henry M. Jackson Wilderness - 7.0 miles)	7.0 miles	2,240 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	4.3 miles	1,376 acres
Private	1.7 miles	544 acres
TOTAL	26.5 miles	8,840 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified as areas of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the area has no known locatable mineral resources. The BLM mining claim recordation data does indicate that four mining claims were located along the Rapid River. However, all four have either been abandoned or declared to be null and void. On the Beckler River, 28 unpatented mining claims have been located in Sections 7, 18, 19 and 32, T.27 N., R.11 E. However, of those 28 claims, 20 have either been abandoned or declared to be null and void.

The BLM has classified both rivers as being prospectively valuable for geothermal resources. However, the areas are not considered to have potential for the occurrence of other leasable mineral commodities. None of the areas have been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the Rapid River area has a relatively low potential for the occurrence of locatable mineral resources. No serious interest in the locatables is currently being expressed. The claims located in the Beckler River area in Sections 18 and 19, T.27 N., R.12 E. do indicate some continuing interest in the areas potential. Both areas have at least a low potential for the occurrence of geothermal resources. However, as with the locatables, no serious interest in the geothermal potential is currently being expressed.

WATER RESOURCE DEVELOPMENT: Both the Beckler River and Rapid River have been classified as "Protected" from hydropower development by the Northwest Power Planning Council.

There is a high potential for small hydro use on the Beckler River. Over 20 applications have been filed. ~~Preliminary permits~~ for hydroelectric projects have been issued by FERC for 7 tributaries of the Beckler and 1 for Rapid River. The following table shows the location of the projects, the proposed facilities and the project capacity in megawatts:

Tributary	Proposed Facilities within Corridor	Megawatts
Beckler:		
Evergreen Creek	Transmission line	1.7
Rapid River	Transmission line	see below
Johnson Creek	Transmission line	2.5
Harlan Creek	Transmission line	2.3
Eagle Creek	Transmission line	1.9
4th of July Creek	Transmission line	1.7
Boulder	Transmission line	1.3
Rapid River:		
	Transmission line	17.3
	Powerhouse	
	Diversion structure & penstock	

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Several Forest Roads converge at Jack Pass near the headwaters of the Beckler: 6550, 6570, 6500, 616, 110 and 65. FS Road 6550 parallels the east bank downstream from Jack Pass until rejoining Forest Road 65 at 4th of July Creek. Road 65 continues to follow the Beckler to its mouth. Forest Road 6510 follows the west bank of the Beckler from Eagle Creek to the road intersection with Road 65, 1.5 miles upstream from the mouth of the river. The Beckler is traversed by 3 bridges. All major tributaries are crossed with either bridges or earth-covered culverts.

FS Road 6530 parallels the Rapid River from the wilderness boundary downstream to the confluence with Beckler River. The road crosses the river 3 times. This road also crosses the North Fork Rapid River just above the confluence. FS Road 65 crosses the mouth of Rapid River.

The Beckler River Campground (24 sites) and Picnic Area (2 sites) are on the east bank of the Beckler River 2.5 miles from the Skykomish Ranger District. Numerous dispersed recreation sites are found along the Beckler River.

There are two logging camps near Rapid River and numerous old railroad trestles in the lower six miles. One old railroad bridge lies 2 miles up from the confluence. A powerline crosses the Beckler near its mouth.

The Pacific Crest Trail crosses the headwaters area of Rapid River within the Henry M. Jackson Wilderness.

The Meadow Creek/Fortune Ponds Trailhead (#1057) is located at the end of FS Road 6530. The trail parallels the river for 1-1/2 miles before heading up Meadow Creek.

There are no homes or farms along either river.

There are no fish habitat projects on the mainstem Beckler, but some do exist on its tributaries. There has been bank seeding/planting, fish passage improvement, and 2 gabion deflectors placed on Boulder Creek. Bullbucker Creek has 3 weirs, 9 root wads, 4 log deflectors, 3 fish passage improvements, 2 boulder pools, 7 digger logs, and bank seeding/planting. Fish passage has been improved on Johnson Creek. Beagle Creek has 2 gabion deflectors, 1 weir, 29 log deflectors, 6 root wads, 3 boulder clusters, 3 boulder pools, and 26 digger logs.

RECREATION ACTIVITIES: There are camping opportunities along Beckler and Rapid River. All receive high use. Hikers use the Meadow Creek and Pacific Crest Trails. The Pacific Crest Trail crosses the Rapid River below Lake Janus. However, there is no developed access to the trail from the Beckler River Basin.

Sightseers can complete a scenic loop trip by driving up the North Fork Skykomish Road out of Index, climb over Jack Pass and drop down into the Beckler Valley to Skykomish. From the 2,500-foot summit of Jack Pass, there are impressive views of the Monte Cristo Peaks, and the North Fork Skykomish and Beckler River valleys.

Fishing for resident rainbow trout is a moderate to high use activity. Class III kayaking with some portages is available from the confluence of the Rapid and Beckler Rivers downstream to the mouth of the Beckler. There is no significant rafting use on the Beckler and low to moderate use by swimmers.

Recreation Activities (in estimated Recreation Visitor Days (RVD's)), for National Forest system lands only:

	1988 RVD'S	Projected 2000 RVD'S
Boating (power and non-power)	10	15
Waterplay (swim, wade)	240	360
Fishing, Hunting	2,900	4,175
Camping	18,000	27,000
Viewing (scenery, wildlife, driving for pleasure)	8,575	13,000
Misc. (hike, picnic, berry picking, etc.)	2,530	4,960
TOTAL	32,255	49,510

WILDLIFE AND FISHERIES: Along the rivers, there is extensive wintering bald eagle forage habitat. Both rivers have excellent black-tailed deer winter range, as well as furbearer habitat. Excellent riparian habitat exists for the black bear. Spotted owls and mountain goats can be found along the Rapid River.

The Beckler River has runs of chinook, coho, steelhead, chum and sockeye, while the Rapid River runs are limited to chinook, coho and steelhead. Resident rainbow trout inhabit both rivers. Increased fish production may be limited by loss of streamside cover from logging activities.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The upper Beckler River watershed is mountainous and quite steep with a narrow valley floor. The river drops sharply through a deep narrow cut. At Boulder Falls, 8 miles downstream from the headwaters, the valley walls narrow and steepen into a deep ravine for 2 miles. Below this, the valley floor widens, stream gradient becomes moderate and stream width averages 24 feet. The bottom of the river is predominantly boulder and rubble with some patch gravel. There are numerous cascades and rapids along the course of the river. Twenty-eight tributaries drain into the Beckler River. Water quality is excellent.

Rapid River is a steep mountain stream down to the last 3 miles. The gradient then becomes moderately steep as it cuts through a narrow channel. The bottom of the river is predominantly boulder and rubble with some patch gravel. There are numerous cascades and rapids. Thirty-one tributaries flow into the Rapid River. The water is clear and quality is excellent.

GEOLOGY: The bedrock in the Beckler River Valley is dominated by metasediments and schist with volcanic and granitic rocks occurring locally. The river flows through a typical glacial-shaped valley. Steep long sideslopes are mostly cutover. The V-shaped Rapid River is surrounded primarily by granitic and schist rocks.

CULTURAL RESOURCES: No systematic survey has been made of Beckler River. However, information is available from surveys made in conjunction with Federal projects, and published historical sources. No prehistoric sites have been recorded to date. The lack of sites may reflect the lack of survey of the drainage. During the historic period, the area was within the territory of the Skykomish Indians. No areas have been identified as important for traditional Indian religious practices.

Historic sites primarily represent logging activities of the Bloedel-Donovan Lumber Co. Logging began up the river in 1917, and a large camp was established just south of Fourth of July Creek. A railroad was constructed up the river with a branch leading off to the east, along the Rapid River. Camp 9 was situated at the mouth of the Rapid River. Bloedel-Donovan sold the land at the end of World War II, and shortly after large company logging gave way to independent enterprises in the valley. None of the known historic sites are listed on the National Register of Historic Places.

TIMBER: Extensive clearcut logging, past and present has taken place along the Beckler River. Currently, the entire drainage has a "patch work" appearance.

Over half of the Rapid River watershed has been burned and salvage logged, and is in varying stages of reforestation.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
195.1	9.823	9.052

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The Beckler River is paralleled by forest roads for its entire length. It enters the South Fork of the Skykomish River about a mile east of Skykomish (pop. 280).

Rapid River flows through undisturbed forest before being paralleled by a forest road to its confluence with the Beckler River. Eight miles southeast is the community of Skykomish (pop. 280).

Skykomish is traditionally a logging, mining, and railroad community. The town also benefits economically from the many visitors drawn by the scenic and Recreation characteristics of the area's rivers, mountains, and forests. Sixty miles from Everett and 75 miles from Seattle, Skykomish is within easy travel distance for thousands of visitors every year. Local businesses cater to campers, hikers, fishers, and hunters, as well as providing hotel facilities for Stevens Pass skiers.

CURRENT ADMINISTRATION: Seven miles of the Rapid River, starting at its headwaters, flow through the Henry M. Jackson Wilderness. Public lands along these rivers are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. The lower two miles of the Beckler is in the Alpine lakes Area under management direction found in the Alpine Lakes Management Plan.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the Beckler River has been classified as Conservancy by King County. This classification is applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

The King County Comprehensive Plan has zoned land along the Beckler River corridor, outside of federal jurisdiction, for Rural Use.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

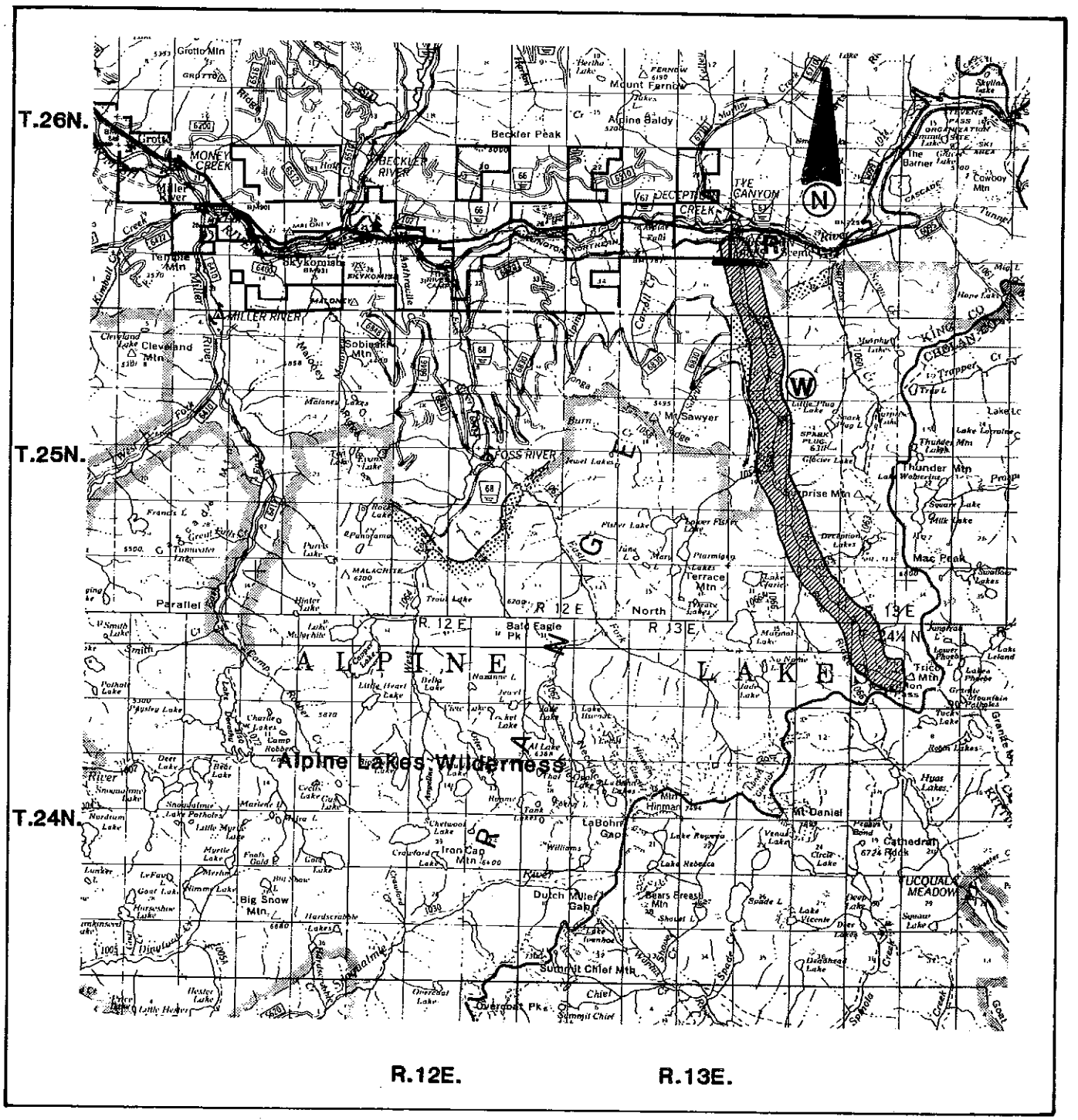
The following are expected funding requirements for the Beckler and Rapid Rivers for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 3,000	$ 1,500
Costs of Implementation		3,000
Development of Management Plan		28,800
Development Costs	4,035,000	
Operation and Maintenance Costs	64,500	
TOTAL - First Five Years	**$4,102,500**	**$33,300**

The developed costs include a highway paving rest area and a trailhead.

General administration and operation and maintenance costs are estimated to continue at $13,800 annually.

Deception Creek



DECEPTION CREEK

King County

Deception Creek was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters at Deception Pass in the Alpine Lakes Wilderness downstream to the confluence with the Tye River.

Segment 1 - The headwaters at Trico Lake in the SW 1/4 of Section 5, T.24 N., R.14 E. to the Alpine Lakes Wilderness boundary (9.8 mi).

Segment 2 - The Alpine Lakes Wilderness boundary to the confluence with the Tye River (0.5 mi).

RIVER MILEAGE:

Study:	10.3 miles
Eligible:	10.3 miles
Forest Plan:	10.3 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Deception Creek was found to possess "Outstandingly Remarkable" values for the following: Wildlife and Historical/Cultural.

The drainage supports an extensive black-tailed deer winter range. There is also excellent riparian habitat for black bears and furbearer habitat. Spotted owls have been found in the drainage.

The mouth of Deception Creek is within the Stevens Pass Historic District, listed on the National Register of Historic Places. Established in 1976, the Historic District recognizes the engineering achievements of the Great Northern Railroad in constructing a route across the Cascades.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	9.8	Wild	9.8
Segment 2	Recreation	0.5	Recreation	0.5

SUITABILITY DETERMINATION:

Deception Creek was found to be eligible for inclusion in the preferred alternative of the Forest Plan due to a lack of competing resource values and ease of management. All but .5 mile of Deception Creek is in the Alpine Lakes Wilderness.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest (Alpine Lakes Wilderness - 9.8 mi)	9.8 miles	3,136 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.5 miles	160 acres
TOTAL	10.3 miles	3,296 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither river segment is classified as an area of critical mineral potential nor is encumbered by unpatented mining claims. A review of available literature, including the Bureau of Mines MILS data, indicates the area has no known locatable mineral resources.

The BLM has classified the entire river as being prospectively valuable ("PV") for geothermal resources. The southern 7 miles is classified as "PV" for coal resources. One lease application was received for Section 31, T.26 N., R.13 E., however, that application has been withdrawn.

Based upon the available information, it appears that the area has a relatively low potential for the occurrence of locatable mineral resources, and no serious interest in the locatables is currently being expressed. The area does have at least a low potential for the occurrence of geothermal and coal resources. However, as with the locatables, no serious interest in these resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on Deception Creek.

Deception Creek is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The Deception Creek Trail #1059 follows the creek for most of its length. The trail intersects the Pacific Crest Trail near Deception Pass. The Pacific Crest Trail crosses Deception Creek near its headwaters. A short road goes from U.S. Highway 2 to the trailhead and accesses the powerlines. The powerlines, railroad and Highway 2 cross Deception Creek in the lower 1/4 mile.

Deception Falls Picnic Area and Nature Trail, located at the mouth of the river, is planned to be improved. The current trail is a 1/2-mile loop from Deception Falls to the Tye River.

A footbridge is planned for construction between the U.S. Highway 2 bridge and the confluence with the Tye River. The Highway 2 bridge is planned to be widened.

There are no homes, farms or developed campgrounds in the drainage.

Two sets of powerlines cross the river at .2 miles from the confluence with the South Fork Skykomish River.

RECREATION ACTIVITIES: Hiking is a popular activity along Deception Creek. The Deception Creek Trail provides access to the Alpine Lakes Wilderness and receives heavy use. The Deception Creek Picnic Area, Nature Trail and Viewpoint is heavily used by sightseers.

There are very limited opportunities for rafting, canoeing and kayaking. Both fishing and swimming are low use activities in the creek.

	1988 RVD'S	Projected 2000 RVD'S
Waterplay (swim, wade)	10	15
Fishing, Hunting	10	15
Camping	1,600	2,300
Viewing (scenery, wildlife, driving for pleasure)	46,575	70,800
Misc. (hike, picnic, berry picking, etc.)	28,820	56,500
TOTAL	77,015	129,630

WILDLIFE AND FISHERIES: The drainage supports an extensive black-tailed deer winter range. There is also excellent riparian habitat for black bears and furbearer habitat. Spotted owls have been found in the drainage.

There are no anadromous fish runs due to the impassable falls located near the mouth of Deception Creek. The creek does contain a population of resident trout.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Deception Creek is a steep mountain stream typical of the Skykomish River drainage. There are numerous cascades and rapids. Eleven tributaries drain into Deception Creek.

Water quality is excellent.

GEOLOGY: The bedrock geology is dominated by granitics and metasediments. This mostly V-shaped valley heads in massive long, forested slopes which blend into rock outcrop and perennial snow on the upper ridges. Numerous tributary streams and occasional avalanche tracks are present on the sideslopes.

CULTURAL RESOURCES: No systematic archaeological survey has been made of Deception Creek and no prehistoric sites are known. The lack of known sites is believed to reflect the lack of a survey in the drainage. During the historic period, the area was within the territory of the Skykomish Indians. No locations used for traditional religious practices are known within the drainage.

The mouth of Deception Creek is within the Stevens Pass Historic District, listed on the National Register of Historic Places. Established in 1976, the Historic District recognizes the engineering achievements of the Great Northern Railroad in constructing a route across the Cascades. No railroad features have been identified within the potential Wild and Scenic River corridor.

TIMBER: Limited logging has occurred along the lower 1/2 mile of the creek. No clearcuts are visible from the creek.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system land only:

Total Timber Volume (MMBF)	ASQ: Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	ASQ: Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
7.7	.010	.010

1/ Based on proposed preferred alternative with revised minimum management requirements.

SOCIO-ECONOMIC EFFECTS: Deception Creek flows into the Tye River close to Deception Falls, 8 miles east of Skykomish. Skykomish has traditionally been a logging, mining and railroad community. The town now also benefits economically from the many visitors drawn by the scenic and recreation characteristics of the area's rivers, mountains and forest. Sixty miles from Everett and 75 miles from Seattle, Skykomish is within easy travel distance for thousands of visitors every year. Local businesses cater to campers, hikers, fishers and hunters, as well as providing hotel facilities for Stevens Pass skiers.

CURRENT ADMINISTRATION: All but the lower 1/2 mile of the creek is located within the Alpine Lakes Wilderness. The Wilderness, and other National Forest lands, are administered by the Mount Baker-Snoqualmie National Forest, USDA Forest Service. This river is in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for Deception Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$10,000	
Development of Management Plan		4,200
Development Costs	70,000	
Total - First Five Years	**$80,000**	**$4,200**

General administration and operation and maintenance costs are estimated to continue at $2,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Trailled	929
		Wilderness-General Trailless	2,027
		Alpine Lakes Dispersed Recreation	63
		Alpine Lakes Scenic	21
Segment 2	Recreation	Old Growth Habitat (spotted owl)	84
		Alpine Lakes Dispersed Recreation	42

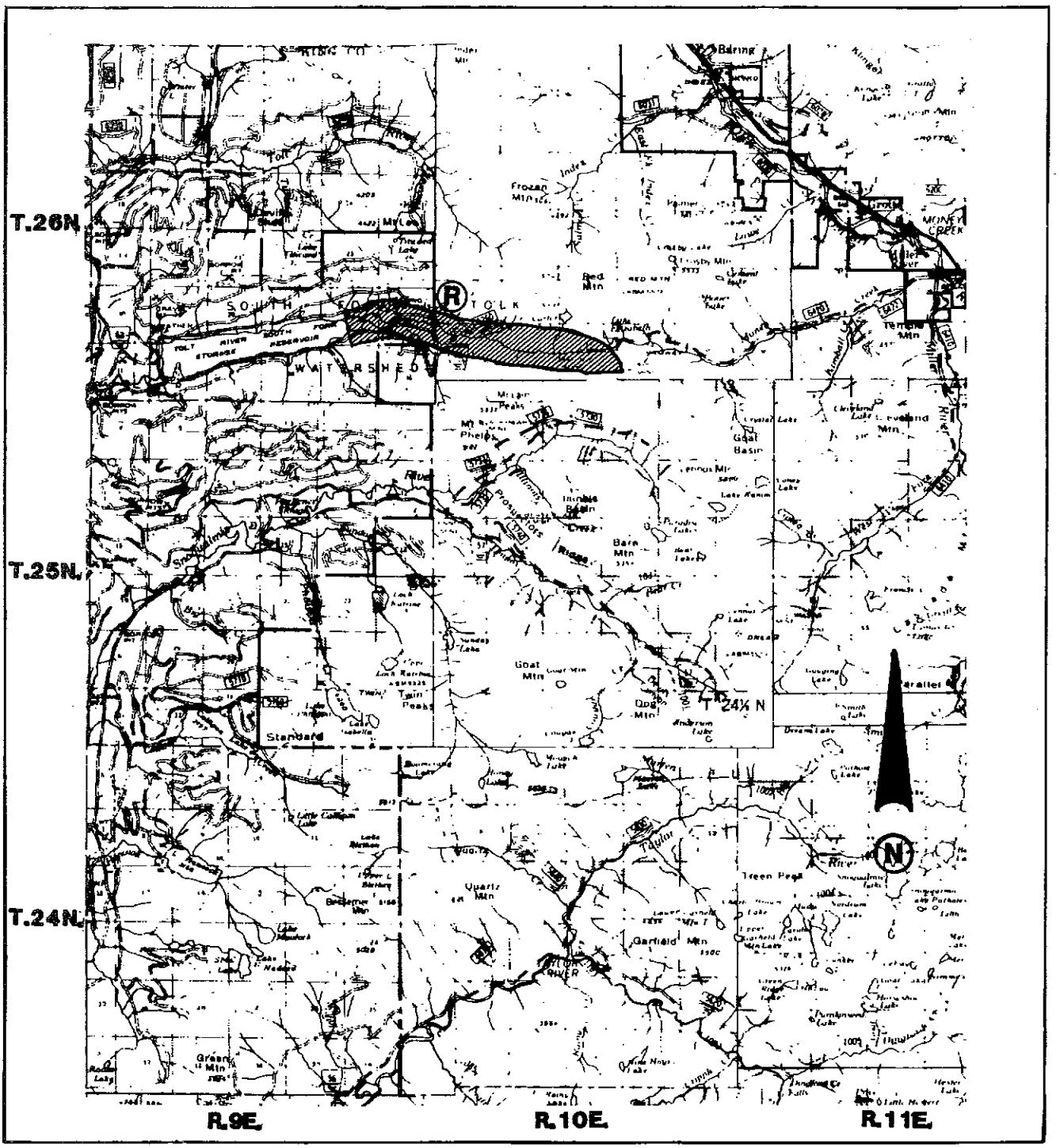
South Fork Tolt River

Potential River Classification

R - Recreational
S - Scenic
W - Wild

River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles



SOUTH FORK TOLT RIVER

King County

The South Fork Tolt River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters, near Lake Elizabeth downstream to the eastern end of the Tolt River Reservoir, owned by the City of Seattle.

Segment 1 - Headwaters in SE 1/4 of Sec. 33, T.26 N., R.10 E. to the Tolt Reservoir (5.4 mi).

RIVER MILEAGE:

Study:	5.4 miles
Eligible:	5.4 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The South Fork Tolt River was found to possess "Outstandingly Remarkable" values for the following: Fisheries.

The South Fork is an important wild resident trout river. Special fishing restrictions provide quality fishing.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	5.4	Not recommended	0.0

SUITABILITY DETERMINATION:

The South Fork of the Tolt River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan. There is extensive logging in the drainage and timber harvest is the highest value. Difficult access for the public, due to private ownership to the west, creates a management problem.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	3.4 miles	1,089 acres
Private	2.0 miles	639 acres
TOTAL	5.4 miles	1,728 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segment has been classified by the BLM as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates the area has no known locatable mineral resource occurrences. However, BLM mining claim recordation data does indicate that Section 33, T.26 N., R.10 E. has been encumbered by forty unpatented mining claims, of which ten have been abandoned or declared to be null and void.

The BLM has classified the eastern 3 miles of the river as being prospectively valuable for geothermal resources. However, the area is not considered to have potential for the occurrence of other leasable mineral commodities and none of the area is encumbered by mineral leases or pending lease applications.

Based upon the available information, it appears that the area has a relatively low potential for the occurrence of locatable mineral resources. However, interest in Section 33, T.26 N., R.10 E. is being expressed by the thirty remaining unpatented mining claims located there. The area does have at least a low potential for the occurrence of geothermal resources. No serious interest in that resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments along the river.

The South Fork Tolt is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The reservoir and virtually the entire river, except for the uppermost two miles, have existing roads within the 1/4 mile corridor. Forest roads for log haul parallel both sides of the river along the lower 2.9 miles, ending in NW 1/4 Sec. 31, T.26 N., R.10 E.

The private portion of the river is closed to public access because it is a domestic water supply for the City of Seattle.

Two bridges cross the river on log hauling roads in Sec. 25, T.26 N., R.9 E. and NE 1/4 Sec. 31, T.26 N., R.10 E.

There are no homes, farms, or developed campgrounds along the South Fork Tolt.

RECREATION ACTIVITIES: There are low levels of recreation use along the South Fork Tolt drainage due to the restriction on public access. Limited amounts of hunting and fishing occur.

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	100	145
Viewing (scenery, wildlife, driving for pleasure)	100	150
Misc. (hike, picnic, berry picking, etc.)	100	200
TOTAL	300	495

WILDLIFE AND FISHERIES: The upper basin contains a population of mountain goats.

No anadromous fish can navigate upstream past the South Fork Falls and the Tolt Reservoir dam. However, the South Fork Tolt is an important wild resident trout river. Special fishing restrictions and limited access provide quality fishing.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The upper three miles of the South Fork Tolt has a steep gradient. The next three miles is moderately steep, with mostly fast riffles, a few cascades and a few short pool-riffle stretches. The river bottom is composed mostly of rubble, scattered boulders and some gravel areas.

Water quality is excellent.

GEOLOGY: The bedrock geology consists of granitic and metasedimentary rocks. This short river originates in steep, massive, mountains of rock outcrop and perennial snow on ridgetops and peaks. The valley becomes relatively wide within a few miles of origin due to the pronounced effects of continental glaciation.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Tolt River and few projects have been done to provide information.

The lack of sites is believed to reflect the lack of survey rather than use. Historically, the Tolt River was within the territory of the Skykomish tribe. Locations used by the Duwamish tribe for traditional religious practice exist within the corridor.

The Tolt River watershed does not appear to have played a significant role in regional development and is virtually unmentioned in historic documents.

Reviewing mining documents from the turn of the century reveals that many mining claims existed in the area. Ore was taken out through Lake Elizabeth and Money Creek, where there were a number of mill sites. Red Mountain is also mentioned often in old documents.

TIMBER: Except for the highest slopes, the South Fork Tolt receives heavy logging use.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
16.2	1.305	1.192

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The headwaters of the South Fork of the Tolt River lie near Lake Elizabeth and the once-profitable Damon Mine. The South Fork Tolt flows into the Tolt Reservoir, a municipal watershed for Seattle.

Although roads do exist into the area from Carnation, 15 miles from the north end of the Reservoir, public access is restricted by the City of Seattle. Any access would be into the headwaters area, on foot from the Money Creek drainage off the Skykomish River drainage.

CURRENT ADMINISTRATION: The public lands along this river are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This river is in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

The shoreline environment from the National Forest boundary in Sec. 31, T.26 N., R.10 E. downstream to the Tolt Reservoir is designated by King County as Conservancy. The Conservancy Environment consists of shoreline areas which are primarily free from intensive development. It is the most suitable designation for shoreline areas of high scenic or historical values, for areas unsuitable for development due to biophysical limitations and for commercial forest lands.

The zoning ordinance on private land along the South Fork Tolt River is Forestry.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the South Fork Tolt River for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$1,000	
Development of Management Plan		6,000
Total - First Five Years	**$1,000**	**$6,000**

General administration and operation and maintenance costs are estimated to continue at $200 annually.

NORTH FORK SNOQUALMIE RIVER
LENNOX CREEK

King County

The North Fork Snoqualmie River and Lennox Creek were studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: Lennox Creek flows from its headwaters inside the Alpine Lakes Wilderness downstream to its confluence with the North Fork Snoqualmie River. The North Fork of the Snoqualmie River flows from its headwaters at Lake Kanim in the Alpine Lakes Wilderness downstream 26 miles to its confluence with the Middle Fork Snoqualmie.

Segment 1 - Headwaters of Lennox Creek in NW 1/4 of Sec. 36, T.25N., R.10 E. to the Alpine Lakes Wilderness boundary (0.3 mi).

Segment 2 - Alpine Lakes Wilderness boundary to the confluence with the North Fork Snoqualmie River (6.9 mi).

Segment 3 - Headwaters of North Fork Snoqualmie at Lake Kanim in SE 1/4 of Sec. 11, T.25N., R.10 E. to the Alpine Lakes Wilderness boundary (1.0 mi).

Segment 4 - Alpine Lakes Wilderness boundary to Lennox Creek (5.1 mi).

Segment 5 - Lennox Creek to Wagner Bridge in NE 1/4 of Sec. 20, T.25N., R.9 E. (8.0 mi).

Segment 6 - Wagner Bridge to confluence with Middle Fork Snoqualmie River (12.1 mi).

RIVER MILEAGE:

Study:	33.4 miles
Eligible:	33.4 miles
Forest Plan:	12.1 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: Lennox Creek was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

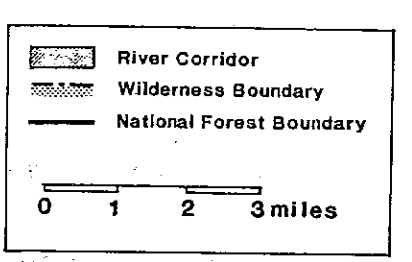
The North Fork Snoqualmie River was found to possess "Outstandingly Remarkable" values for the following: Recreation and Fisheries.

Both the North Fork Snoqualmie and Lennox Creek are important resources for resident cutthroat trout. Special fishing restrictions provide quality fisheries.

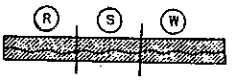
The Lennox River corridor provides extensive winter range for black-tailed deer and mountain goats, as well as good riparian habitat.

North Fork Snoqualmie River

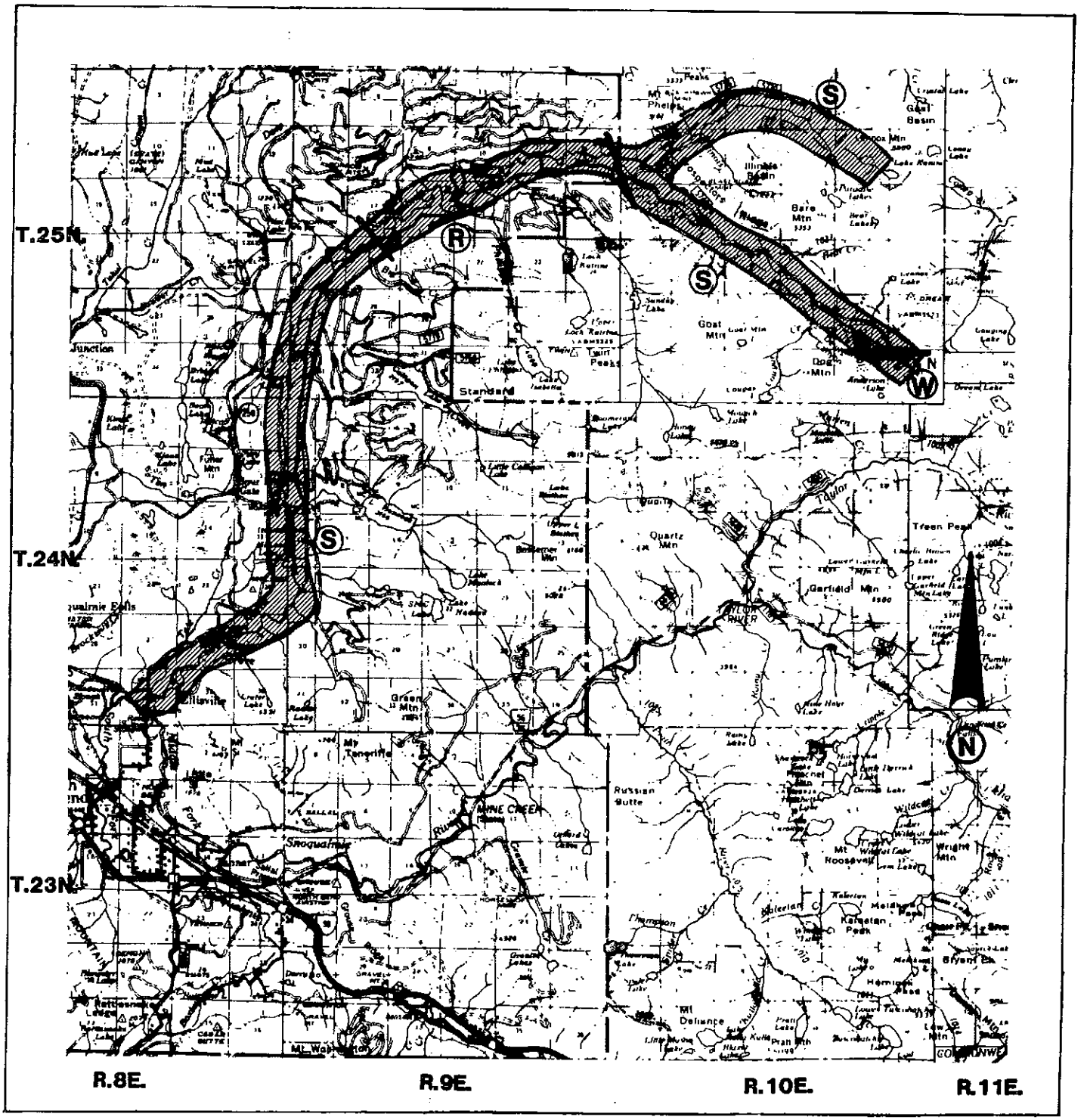
Lennox Creek



Potential River Classification



R - Recreational
S - Scenic
W - Wild



The lower 6 miles of the North Fork Snoqualmie offers a great diversity of challenges for advanced kayaking and canoeing. Fishing for trout is also a high use activity.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	.3	None recommended	0.0
Segment 2	Scenic	6.9	None recommended	0.0
Segment 3	Wild	1.0	None recommended	0.0
Segment 4	Scenic	5.1	None recommended	0.0
Segment 5	Recreation	8.0	None recommended	0.0
Segment 6	Scenic	12.1	Scenic	12.1

SUITABILITY DETERMINATION:

Portions of the North Fork of the Snoqualmie River were found to be suitable for inclusion in the preferred alternative of the Forest Plan. The lower seven miles below the Wagner Bridge - all state or private ownership - are recommended for designation. While there was little public support for designation and timber harvest is the highest value on the National Forest lands in this area, it was felt that the lower river had very high recreation potential and deserved designation.

Lennox Creek was found to be not suitable for inclusion in the preferred alternative. It is tributary to the North Fork of the Snoqualmie, and is an illogical addition without the upper reaches of the North Fork.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest (Alpine Lakes Wilderness - 0.3 mi)	0.3 mile	96 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	6.9 miles	2,208 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest (Alpine Lakes Wilderness - 1.0 mi)	1.0 mile	320 acres
Segment 4		
Mt. Baker-Snoqualmie National Forest	5.1 miles	1,632 acres
Segment 5		
Private	6.0 miles	2,200 acres
State	2.0 miles	360 acres
Segment 6		
Private	12.1 miles	3,872 acres
TOTAL	33.4 miles	10,688 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments have been classified as areas of critical mineral potential. However, the area near the eastern 7 miles of the river has been encumbered by 99 unpatented mining claims, of which 43 have either been abandoned or declared to be null and void. A review of available literature, including the Bureau of Mines MILS data, indicates that the portion of the river lying in T.25N., R.10 E. does contain reported occurrences of both precious and base metal mineral resources. In addition, Sections 24 and 25, T.24 N., R.8 E. contain reported occurrences of both copper and gold resources.

The BLM has classified the eastern 6 miles of the river as being prospectively valuable for geothermal resources. The area is not considered to have potential for the occurrence of other leasable mineral commodities, and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the eastern 6 miles of the river has a low to moderate potential for the occurrence of both precious and base metal resources. Interest in those resources is currently being expressed in the form of numerous unpatented mining claims. It also appears that a small part of the area has at least a low potential for the occurrence of geothermal resources. However, no interest in that resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: For many years, the North Fork Snoqualmie Valley has been considered to be a good location for a dam. The dam would control flooding downstream and/or create a water supply reservoir for domestic use.

The upper 15.4 miles of the North Fork Snoqualmie and all of Lennox Creek are classified as "Protected" from hydropower development by the Northwest Power Planning Council.

Preliminary permits for hydroelectric projects have been issued by FERC for four tributaries of the North Fork Snoqualmie: Lennox Creek, Big Creek, Hancock Creek and Tate Creek.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Logging roads are extensive along both sides of the North Fork Snoqualmie except for that portion in the wilderness. The North Fork County Road parallels the North Fork Snoqualmie sporadically, along with Weyerhaeuser logging roads, from its mouth to the Forest boundary, where it becomes F.S. Road #57. The road continues upstream, paralleling Lennox Creek from its mouth to the Wilderness boundary. F.S. Road #5730 parallels the North Fork from the confluence with Lennox Creek to the Wilderness boundary.

Six bridges traverse the North Fork Snoqualmie River. One bridge is found on the North Fork Road near the mouth of the river, one on the Weyco Road to Lake Hancock and one on the Weyco Road at Sunday Creek. The Wagner Bridge lies near the confluence with Big Creek, and the other two bridges are on F.S. Road #5730 over the North Fork. There are also 3 bridges that span Lennox Creek.

No developed campgrounds exist along either river.

The Bare Mtn. (#1037) and Lennox Cr. (#1001) Trailheads are located on F.S. Road #57 in the Lennox Creek drainage.

Residences line the North Fork Snoqualmie along the lower 3 miles.

Pastures are also found in the lower 3 miles.

The proposed 905-acre Three Forks Park site is located at the confluence of the North, South and Middle Forks of the Snoqualmie River. In 1978, Washington State Parks prepared a draft conceptual plan to meet the Snohomish Mediated Agreements requirement of developing a major recreation area at the Three Forks location. The plan called for most of the site to be managed as a natural area for wildlife habitat. It was also suggested for teaching beginning recreation skills in canoeing, kayaking, hiking and camping. Limited development is envisioned.

RECREATION ACTIVITIES: From Deep Creek to the swinging bridge, the lower 6 miles of the North Fork Snoqualmie offers a great diversity of challenges for advanced kayaking and canoeing. Heaviest use is from late April through June. There is no kayaking on Lennox Creek.

Fishing for resident trout is a high use on the North Fork Snoqualmie. Lennox Creek receives moderate use. The wild resident trout population is of high quality.

Hunting occurs on the uplands. Other dispersed recreation use in the drainages is low to moderate.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power and nonpower)	50	80
Waterplay (swim, wade)	750	1,125
Fishing, Hunting	750	1,080
Camping	8,000	12,000
Viewing (scenery, wildlife, driving for pleasure)	500	760
Misc. (hike, picnic, berry picking, etc.)	1,000	1,960
TOTAL	11,050	17,005

WILDLIFE AND FISHERIES: The river corridors provide extensive winter range for black-tailed deer and mountain goats, as well as good riparian habitat.

There are no natural salmon runs above Snoqualmie Falls. Hatchery propagated chinook and coho have been planted in the upper drainages. Both the North Fork Snoqualmie and Lennox Creek are important resources for resident cutthroat trout. Special fishing restrictions provide quality fisheries.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The entire length of Lennox Creek and the upper 6 miles of the North Fork Snoqualmie cut through a narrow, steep-sloped valley. Below Lennox Creek for 7 miles, the valley is broad and flat. Downstream, the valley narrows and then broadens.

Appendix E
North Fork Snoqualmie River
Lennox Creek

Numerous small falls are found on the lower reaches of Lennox Creek. Below Hancock Creek, the North Fork Snoqualmie River falls over a series of cascades, with some drops exceeding 4 feet.

Water quality is excellent of both river.

GEOLOGY: Originating in massive, granite dominated mountains, the river flows through a wide, U-shaped glacially carved valley. Headwater mountains are highly dissected with rock outcrop and patches of perennial snow at higher elevations. The downstream topography is more subdued and is surrounded by forested (or cutover) ridge systems.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the North Fork Snoqualmie/Lennox Creek drainage. Existing information comes primarily from published historical sources. During the historic period, the area was within the territory of the Snoqualmie Indians. There is some evidence that the mouth of the North Fork was used during the historic period by the Indian groups and currently holds some value for traditional religious practices.

Mining began in the upper valley in 1896 and numerous claims were filed within a year. The Lennox Mining and Development Company was located on Lennox Creek and prospectors built a small town at the mouth of the creek. A railroad was extended up the North Fork for logging in the early part of the century. None of the sites known from the North Fork Snoqualmie - Lennox Creek drainage are listed on the National Register of Historic Places.

TIMBER: Logged areas are found intermittently for most of the length of Lennox Creek. Extensive logging is found throughout most of the North Fork Snoqualmie drainage, especially on private land outside the forest boundary.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest systems lands only:

	----------ASQ----------	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
89.0	4.628	4.268

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The North Fork Snoqualmie River flows into the Snoqualmie River approximately 1/2 mile from the community of North Bend and about 5 miles from the community of Snoqualmie. Lennox Creek has its origin in the Alpine Lakes Wilderness but for most of its length is paralleled by a forest road.

The local communities, only about 30 miles from Seattle, are increasingly populated by people who work in the city. They are also strongly impacted by visitors seeking the scenic and recreation amenities of the area. These include hiking, camping, hunting and fishing. Traditional occupations within the timber industry still provide the livelihood of a number of residents.

CURRENT ADMINISTRATION: The upper 0.3 miles of Lennox Creek and 1.0 miles of the North Fork flow within the Alpine Lakes Wilderness. Public lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. These lands are in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

The Shoreline Environment has been designated by King County as Conservancy for both river banks outside Federal jurisdiction. The Conservancy Environment consists of shoreline areas which are primarily free from intensive development. It is the most suitable designation for shoreline areas of high scenic or historical values, for areas unsuitable for development due to biophysical limitations and for commercial forest lands.

Zoning for the banks of both rivers is classified as Forestry except for the section from Crater Lake to the mouth of the North Fork. This section is zoned as Rural Area with one home per 2.5 - 10 acres.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the North Fork Snoqualmie River and Lennox Creek for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$5,000	$ 5,000
Costs of Implementation		1,000
Development of Management Plan		58,200
Development Costs		60,000
Operation and Maintenance Costs		12,000
Total - First Five Years	**$5,000**	**$136,000**

General administration and operation and maintenance costs are estimated to continue at $4,400 annually.

Middle Fork Snoqualmie River

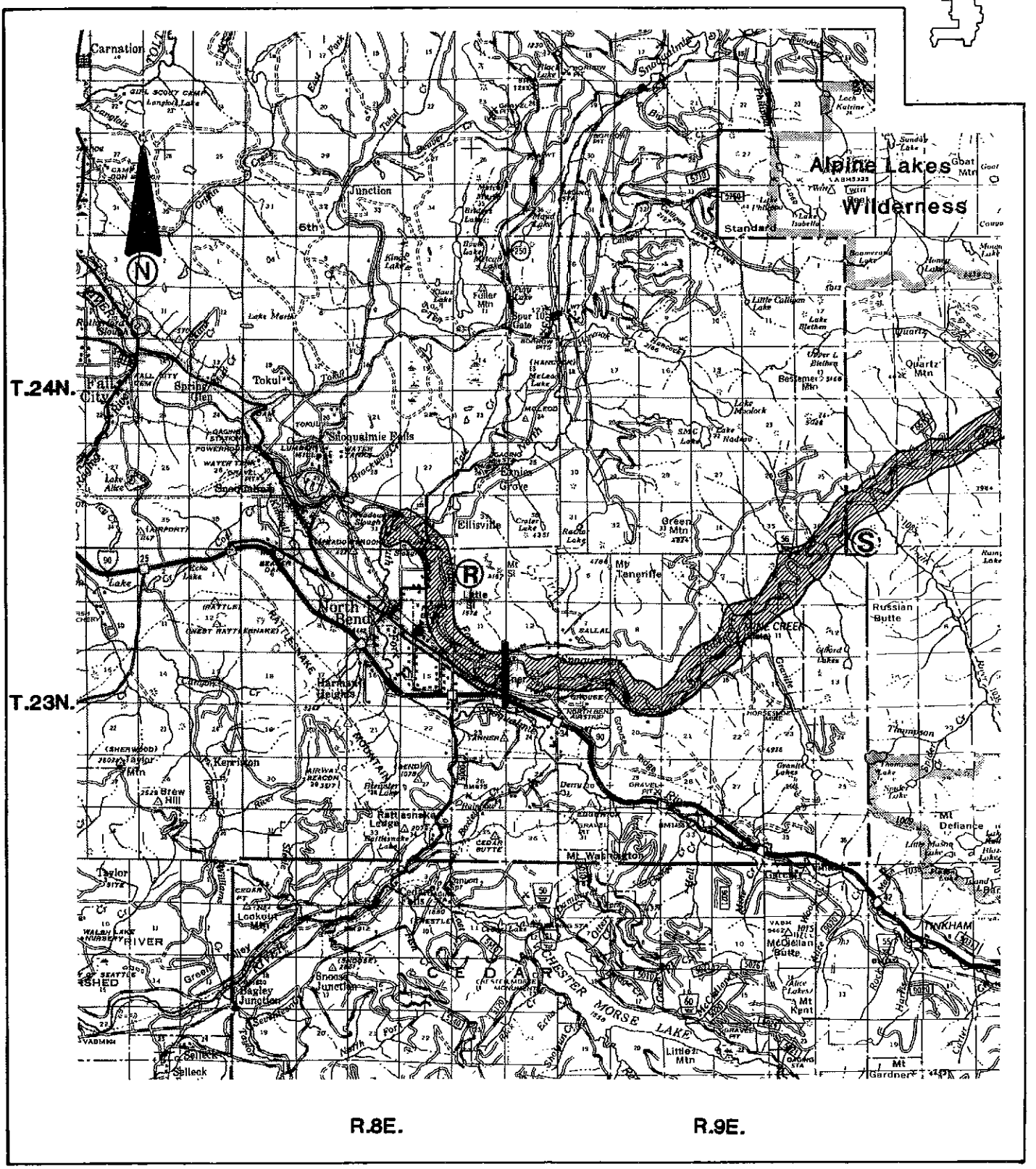
(1)

Potential River Classification

R - Recreational
S - Scenic
W - Wild

River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles



Middle Fork Snoqualmie River

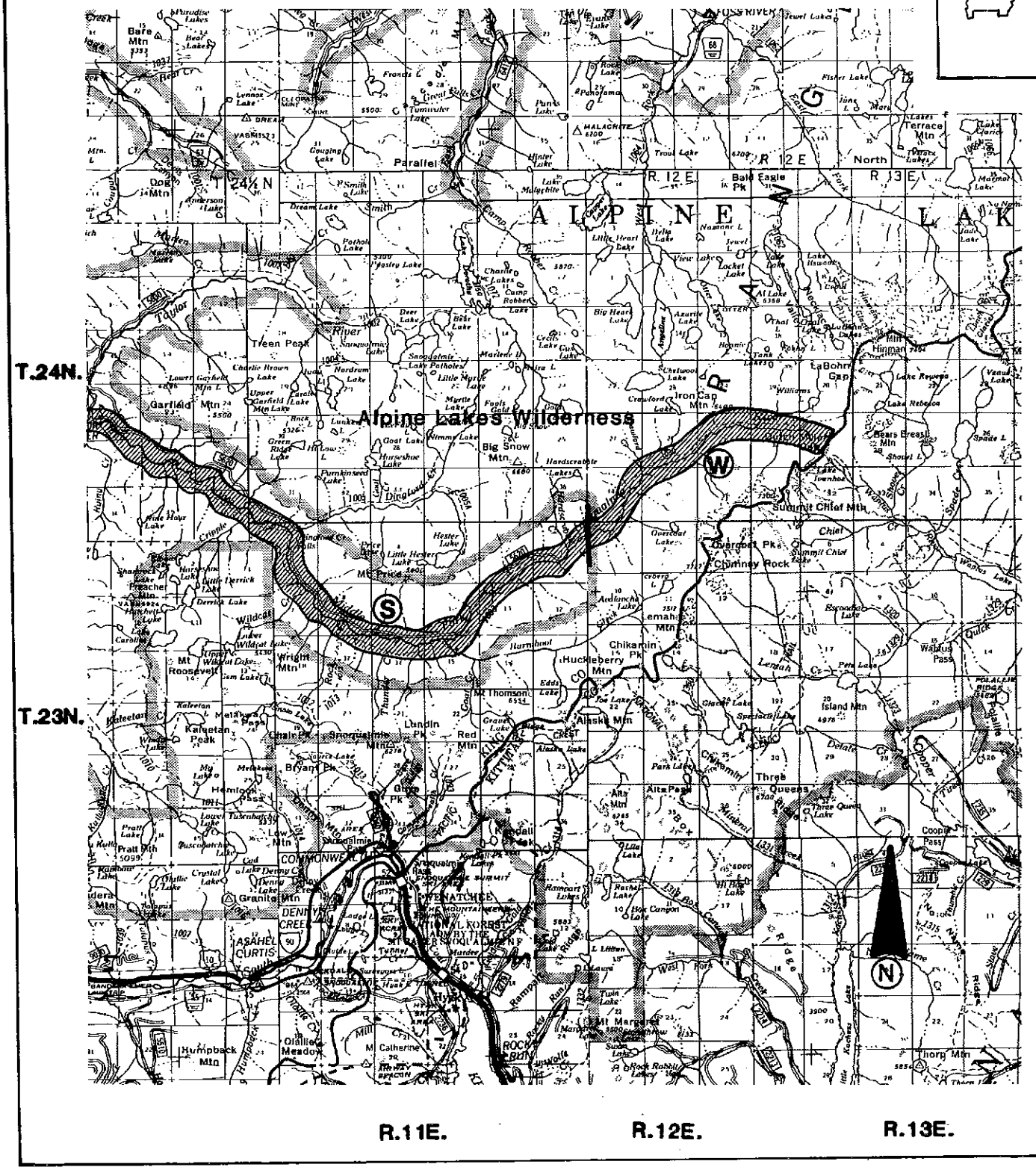
(2)

Potential River Classification

R - Recreational
S - Scenic
W - Wild

River Corridor
Wilderness Boundary
National Forest Boundary

0 1 2 3 miles



R.11E. R.12E. R.13E.

MIDDLE FORK SNOQUALMIE RIVER

King County

The Middle Fork Snoqualmie River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

The Middle Fork Snoqualmie River was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982.

LOCATION: From its headwaters near La Bohn Gap in the Alpine Lakes Wilderness downstream to its confluence with the South Fork Snoqualmie River.

Segment 1 - The headwaters near La Bohn Gap in the NW 1/4 of Section 20, T.24 N., R.13 E. to the Alpine Lakes Wilderness Boundary (6.4 mi).

Segment 2 - The Alpine Lakes Wilderness boundary to the confluence with the Taylor River (13.2 mi).

Segment 3 - The Taylor River confluence to a location near the community of Tanner in the NW 1/4 of Section 13, T.23N., R.8 E., (15.9 mi).

Segment 4 - Near the community of Tanner to the confluence with the North Fork Snoqualmie River (4.2 mi).

RIVER MILEAGE:

Study:	39.7 miles
Eligible:	39.7 miles
Forest Plan:	39.7 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Middle Fork Snoqualmie River was found to possess "Outstandingly Remarkable" values for the following: Recreation, Wildlife and Fisheries.

Though use is only moderate at the present time, the potential is high for rafting, canoeing, kayaking and fishing. Use is high for hunting and for driving for pleasure along the river corridor. Planned trail reconstruction along the river and the numerous existing trailheads provide excellent hiking and dispersed recreation opportunities.

A SOHA with three sighted pair is located adjacent to the river in the Dingford Creek area. There is a large variety of wildlife species including elk, black-tailed deer, mountain goat, black bear and beaver. The river corridor contains extensive deer winter range, and excellent riparian and furbearer habitat.

There are excellent resident cutthroat populations throughout the entire drainage.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	6.4	Wild	6.4
Segment 2	Scenic	13.2	Scenic	13.2
Segment 3	Scenic	15.9	Recreation	15.9
Segment 4	Recreation	4.2	Recreation	4.2

SUITABILITY DETERMINATION:

The Middle Fork of the Snoqualmie River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to its many outstandingly remarkable features, very high public support, and the support of other agencies for designation. The Middle Fork has a very high potential for recreation, and was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory published by the National Park Service in 1982.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest (Alpine Lakes Wilderness - 6.4 mi)	6.4 miles	2,048 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	12.0 miles	3,864 acres
Private	1.2 miles	360 acres
Segment 3		
Mt. Baker-Snoqualmie National Forest	4.9 miles	1,568 acres
Private	9.6 miles	2,960 acres
State	1.4 miles	560 acres
Segment 4		
Private	4.2 miles	1,344 acres
State	0.0 miles	160 acres
TOTAL	39.7 miles	12,704 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified by the BLM as areas of critical mineral potential. However, a review of available literature, including the Bureau of Mines MILS data does indicate the area has some occurrences of both precious and base metal resources. The BLM mining claim recordation data indicates that 259 unpatented mining claims have been located along the river from Section 16, T.23N., R.11 E., eastward. Of these 259 claims, only 2 have been abandoned. Of the reported occurrences, those of most interest are quartz deposits located near the river, and the gold, silver and copper occurrences reported for Sections 1, 14 and 18, T. 23N., R.11 E. and for Section 36, T.24 N., R11 E. According to V.E. Livingston (1971), the Middle Fork mineralized zone extends northeast from Goldmeyer Hot Springs to Crawford Creek, a distance of about 6 miles.

This mineralization contains widespread low-grade copper and possible molybdenum concentrations which have been extensively explored in the past. At least 5 to 10 million tons of ore containing copper concentrations of 0.5 to 0.7 percent have been identified.

The BLM has classified the eastern 24 miles of the river as being prospectively valuable for geothermal resources. None of the area is considered to have a potential for the occurrence of other leasable mineral commodities. Sections 10, 11, 15 and 23, T.23N., R.11/E. have been leased in the past. However, these leases have terminated.

Based upon the available information, it appears that the eastern 12 to 13 miles have a moderate potential for the occurrence of base and precious metal resources. The numerous unpatented mining claims in that area indicate a continuing interest in its locatable mineral resources. The area does have a potential for the occurrence of geothermal resources. However, no serious interest in the resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: The Middle Fork Snoqualmie River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

Preliminary permits for hydroelectric projects have been issued by FERC on the following tributaries to the Middle Fork Snoqualmie: Burntboot Creek, Dingford Creek, Taylor River, Granite Creek and Pratt River. Proposed facilities within the river corridor consist of a transmission power line.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Forest roads parallel the river from its confluence with the South Fork Snoqualmie River to within 1 mile of the Alpine Lakes Wilderness boundary.

Three road bridges cross the river: 1 near the confluence with the North Fork, 1 at North Bend and 1 at the confluence with Granite Creek. Two trail bridges cross the river. One is in the Alpine Lakes Wilderness in Section 26, T. 24 N., R. 12 E. The other is near Dingford Creek confluence in Section 6, T.26 N., R.11 E.

Many private dwellings and new housing developments are found along the lower seven miles of the river. An occupied cabin on private property is located near the confluence with the Taylor River.

The Dingford Creek Trailhead #1005 is located on Forest Road 5620. At the end of the road, the Dutch Miller Gap Trail #1030 begins. The trail heads eastward, paralleling the river for the length of the trail. The Pratt River Trailhead #1035 and the Rock Creek #1013.1 are accessed by fording across the Middle Fork.

The Middle Fork Trail #1003 is planned for reconstruction and expansion. The trail will parallel the south bank of the river from the Pratt River area to connect with the Dutch Miller Gap Trail #1030. Bridge crossings are planned one mile upstream from the confluence of Taylor River, Burntboot Creek and another upstream of Burntboot Creek.

The Taylor River Campground has been closed, however, the Alpine Lakes Plan identifies need for construction of a new campsite near the Taylor River confluence with the Middle Fork Snoqualmie River. The Department of Natural Resources has a campground at Mine Creek (17 sites), about 5 miles upstream from Tanner.

A minor amount of rip-rap is in place at the confluence with Rock Creek. There are also extensive sections of rip-rap along the river from the town of North Bend to the mouth of the river.

King County has proposed acquiring land along the north bank of the river near the mouth to create the Mt. Si Conservation Area. The area will be used for general recreation and hiking.

King County has received 55 acres of land for a proposed regional park at the confluence of the three forks of the Snoqualmie River. Most of the site will be managed as a natural area for wildlife habitat. The U.S. Army Corps of Engineers has proposed a 1.25 mile levee along the Middle Fork for flood control. The levee top would be used as a pedestrian/bicycle trail and would have a small rest area with benches. Future extension of the trail to connect with the proposed multi-agency sponsored Sound to Mountain Trail is possible.

There is substantial housing developments being constructed along the Mt. Si Road upstream to Section 13, T.23N., R.8 E.

The proposed Puget Sound to Mountain Trail would link the Snoqualmie Valley Trail from the town of Snoqualmie to the Granite Lakes. The trail would follow the Middle Fork from Tanner to Granite Creek.

RECREATION ACTIVITIES: The Middle Fork Snoqualmie drainage incurs heavy use by hunters, sightseers, hikers and campers. The drainage is within an easy driving distance from Seattle and attracts many visitors. There is moderate fishing use along most of the river downstream of Goldmeyer Hot Springs. Moderate kayaking and canoeing use exists downstream of the Taylor River confluence. Outside of the Forest boundary, the use increases. Rafting use is moderate outside the Forest boundary and swimming use is low.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power and nonpower)	65	100
Waterplay (swim, wade)	5,100	7,650
Fishing	5,100	7,345
Camping, Hunting	40,600	60,900
Viewing (scenery, wildlife, driving for pleasure)	4,000	6,080
Misc. (hike, picnic, berry picking, etc.)	1,500	2,940
TOTAL	56,365	85,015

WILDLIFE AND FISHERIES: A SOHA with three sighted pair is located adjacent to the river in the Dingford Creek area. There is a large variety of wildlife species including elk, black-tailed deer, mountain goat, black bear and beaver. The river corridor contains extensive deer winter range, and excellent riparian and furbearer habitat.

No natural salmon utilization exists above Snoqualmie Falls on the Snoqualmie River. Juvenile chinook and coho salmon are occasionally planted to make use of natural rearing potential. There are excellent resident cutthroat and rainbow trout populations throughout the entire drainage.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: From its headwaters to Burntboot Creek, the Middle Fork Snoqualmie exhibits typical mountain stream character, flowing swiftly within a confined channel over steep gradient. There are numerous cascades and fast riffle stretches. Below Burntboot Creek, the gradient is mostly moderate for 19 miles to below Granite Creek. Here the river is contained within a broad, stable channel with a fast riffle character. A few rapids, short cascades and a number of large deep pools separate fast water stretches. Sixty tributaries drain into the Middle Fork Snoqualmie River.

Stream flows reach a maximum in June and again in December when the river reaches almost 2,000 cubic feet per second (cfs) at the Middle Fork stream gauge. The low flow occurs in late August to mid-September at 500 cfs.

The Snoqualmie River system is listed by the State Department of Ecology as a "River of Statewide Significance" based on water volume.

Water quality is excellent above Taylor River. Below this junction, clay deposits cause muddying of the water during periods of high runoff.

GEOLOGY: Granite, grandodiorite, honrblende gneiss, and associated rock types comprise the bedrock geology in this rugged area. Past glaciation has carved out the valley and left deposits of glacial till and unstable lacustrine materials in this mostly U-shaped valley. Valley sideslopes, consisting of deeply dissected forested slopes associated with nearly vertical massive rock bluffs, merge into rocky upper slopes where patches of snow often last through summer.

CULTURAL RESOURCES: No systematic archeological survey has been made of the Middle Fork. Few project surveys have been conducted, and historical research is limited. No prehistoric sites have been recorded. The lack of sites is believed to reflect the lack of a survey of the drainage. During the historic period, the area was within the territory of the Snoqualmie Indians. No locations used for traditional religious practices are known within the potential Wild and Scenic River corridor.

Historic period sites represent mining, logging, recreation and Forest Service administration. Prospecting began on the Middle Fork in 1869, but no substantial placers or lodes were discovered. The main use of the drainage was for accessing other mining districts. Timber harvest commenced in the 1920's and included the construction of logging railroads. Camp Brown was used by the North Bend Lumber Company during this period. It later housed a CCC crew, and then became a Fire Guard Station. The building was washed away in a 1959 flood. None of the sites known from the Middle Fork are listed on the National Register of Historic Places.

TIMBER: Most of the drainage is in second growth forest as a result of old railroad logging. Logging is a low influence along the river.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
138.6	1.880	1.880

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The river flows through the town of North Bend (population 1,701) and about 8 miles from the town of Snoqualmie (population 1,370). Both communities have been traditionally supported by logging and the forest products industry. More recently, many of the residents are employed in the Seattle metropolitan area, 24 miles distant. North Bend is also a retail and service area for residents in the Upper Snoqualmie Valley and is promoting its industrial development potential. The economy of the area is increasingly changed by the thousands of visitors yearly who are attracted to the scenic and recreation qualities of the area. The recreation opportunities include skiing, camping, hiking, hunting and fishing.

CURRENT ADMINISTRATION: The upper 5.5 miles of the river flow through the Alpine Lakes Wilderness. These, and other National Forest lands, are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. These lands are in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shorelines of the Middle Fork Snoqualmie has been classified as Natural from the forest boundary to the west section line of Sec. 17, T.23N., R.9 E. and as Conservancy from the west section line to the river mouth. These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Natural designation denotes shoreline areas characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relatively intolerant of intensive human use. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

From the forest boundary to the Mt. Si Road in North Bend, the land along the Middle Fork Snoqualmie, outside of federal jurisdiction, has been zoned for Forestry Use. From Mt. Si Road to the confluence with the North Fork, the land is zoned for Rural Use, with 1 dwelling per 2.5 to 10 acres.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Middle Fork Snoqualmie River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 10,000	$ 50,000
Costs of Implementation		15,000
Development of Management Plan		52,700
Development Costs	1,000,000	50,000
Operation and Maintenance Costs	360,000	5,000
Total - First Five Years	**$1,370,000**	**$172,700**

General administration and operation and maintenance costs are estimated to continue at $85,000 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	42
		Wilderness-Trailled	633
		Wilderness-General Trailless	1,182
Segment 2	Scenic	Alpine Lakes Dispersed Recreation	506
		Alpine Lakes Scenic	3,019
		Old Growth Habitat (spotted owl)	232
Segments 3 and 4	Recreation	Old Growth Habitat (spotted owl)	63
		Pine martin/Pileated woodpecker Habitat	63
		Alpine Lakes Scenic	781

TAYLOR RIVER

King County

The Taylor River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Snoqualmie Lake within the Alpine Lakes Wilderness to its confluence with the Middle Fork Snoqualmie River.

Segment 1 - Snoqualmie Lake to the Alpine Lakes Wilderness boundary (1.2 mi).

Segment 2 - Alpine Lakes Wilderness boundary to Quartz Creek Road (5.4 mi).

Segment 3 - Quartz Creek Road to confluence with Middle Fork Snoqualmie River (1.6 mi).

RIVER MILEAGE:

Study:	8.2	miles
Eligible:	8.2	miles
Forest Plan:	8.2	miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Taylor River was found to possess "Outstandingly Remarkable" values for the following: Recreation and Fisheries.

A large number of hunters use the area surrounding the Taylor River. Dispersed camping occurs along the river corridor. Large numbers of dayhikers and backpackers use trails that head into lakes within the Alpine Lakes Wilderness.

There are excellent resident cutthroat trout populations throughout the entire drainage.

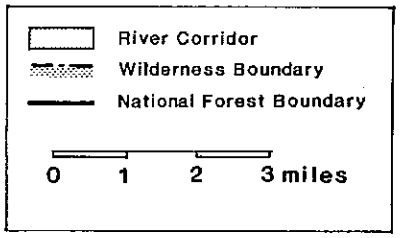
POTENTIAL AND RECOMMENDED CLASSIFICATION:

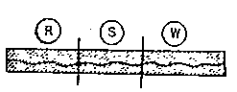
Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	1.2	Wild	1.2
Segment 2	Wild	5.4	Scenic	5.4
Segment 3	Recreation	1.6	Recreation	1.6

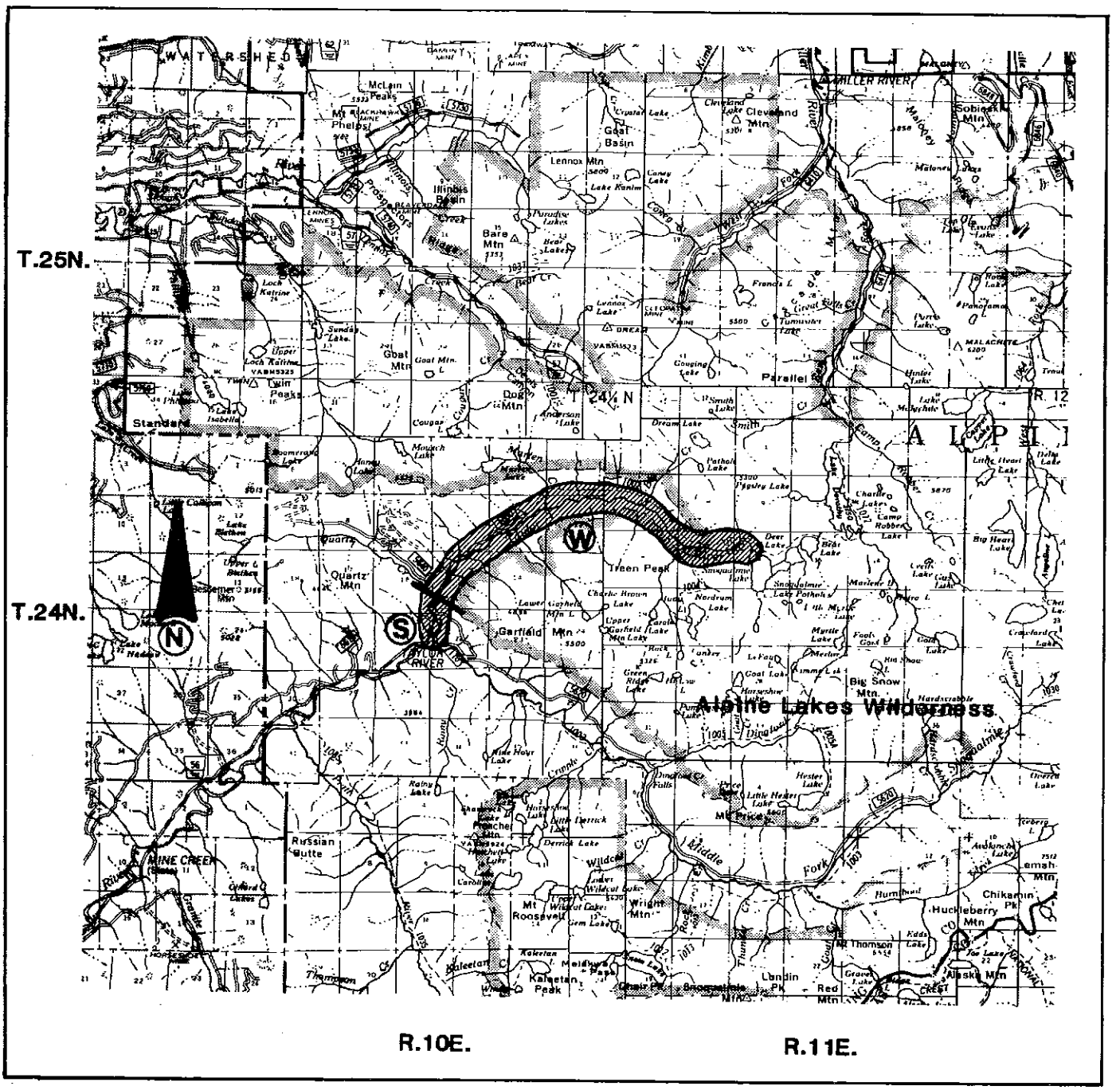
SUITABILITY DETERMINATION:

The Taylor River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due to little or no competing resource value, high public interest, high potential recreation value. Designation is compatible with the Alpine Lakes Management Plan.

Taylor River







LANDOWNERSHIP:	River Miles	Corridor Acres
Segment 1 Mt. Baker-Snoqualmie National Forest (Alpine Lakes Wilderness - 1.2 mi)	1.2 miles	384 acres
Segment 2 Mt. Baker-Snoqualmie National Forest	5.4 miles	1,728 acres
Segment 3 Mt. Baker-Snoquamie National Forest Private	1.4 miles 0.2 miles	448 acres 64 acres
TOTAL	8.2 miles	2,624 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segments are classified by the BLM as areas of critical mineral potential, and none are encumbered by unpatented mining claims. Although a review of available literature indicates Section 16, T.24 N., R.10 E. contains an interesting mineral occurrence, the river corridor itself has no reported locatable mineral resource occurrences.

The BLM has classified the entire river as being prospectively valuable for geothermal resources, however, the area is not considered to have potential for the occurrence of other leasable mineral commodities, and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the river has at least a low potential for the occurrence of locatable mineral resources. However, there is no current serious interest in the locatable minerals. Even though the area has potential for the occurrence of geothermal resources, no serious interest in that resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are no water impoundments along the river. The Taylor River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A preliminary permit for a hydroelectric project has been issued by FERC. The project will be 44 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Forest Road 5630 follows the river upstream for 6 1/2 miles to the wilderness boundary. Only the lower mile is presently open. At 1 mile, a concrete bridge is being constructed across the river to replace one that was burned several years ago. The bridge will provide access up the Quartz Creek Road (5640). Forest Road 5630 will remain closed to motorized traffic beyond the Quartz Creek Road junction.

Forest Road 5630 crosses the river twice, both times near the confluence with Quartz Creek.

Forest Road 5630 is now used as a trail and provides access to the Martin Lake Trailhead (#1006). The Snoqualmie Lake Trail (#1002) begins at the east end of the road and parallels the Middle Fork to its headwaters at Snoqualmie Lake. The Nordrum Lake Trail (#1004) also begins at the end of the road and crosses the river (no bridge) on its route up to the lake.

There are no homes, farms or developed campgrounds along the Taylor River.

Rip-rap has been placed along the piers of the new concrete bridge.

RECREATION ACTIVITIES: A large number of hunters use the area surrounding the Taylor River. Dispersed camping occurs from the confluence with the Middle Fork to about 1/2 miles upstream. The Forest Service Road is currently closed to motorized traffic beyond the first bridge crossing. The road is used by day hikers and by backpackers heading to lakes within the Alpine Lakes Wilderness.

Fishing is a moderate use along the entire length of the river. Little river use occurs by rafters, kayakers or swimmers.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	30	50
Waterplay (swim, wade)	2,000	3,000
Camping	10,000	15,000
Viewing (scenery, wildlife, driving for pleasure)	500	760
Misc. (hike, picnic, berry picking, etc.)	800	1,570
TOTAL	14,080	20,380

WILDLIFE AND FISHERIES: A number of species use the Taylor River drainage, including deer, marten, mountain goats, bear and beaver. It is an excellent winter range for black-tailed deer and also provides excellent riparian and furbearer habitat.

Salmon cannot migrate past Snoqualmie Falls on the Snoqualmie River. There are excellent resident cutthroat trout populations throughout the entire river drainage.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The Taylor River contains lengthy reaches with mostly moderate gradients and good pool-riffle conditions. The river bottom is primarily gravel-rubble. Twenty-two tributaries drain into the river.

Water quality is excellent.

GEOLOGY: The bedrock geology is comprised of granite, granodiorite, hornblend gneiss, and associated rock types in this rugged area. Past glaciation has carved out and left deposits of glacial till in this mostly U-shaped valley. Valley side slopes, consisting of dissected, very steep, forested sideslopes associated with nearly vertical cliffs, merge into massive rock ridgetops and peaks where patches of snow last through summer.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Taylor River. However, one prehistoric site is known and others may exist. Localities used by members of the Indian community to practice their traditional religion exist within the river corridor.

There was some logging activity up the Taylor River in the early 1900's. However, no historic sites associated with this logging are documented at this time. The lack of sites is probably reflective of survey patterns rather than lack of use. The Forest Service presence was established as early as 1910, by which time a ranger station had been constructed near the mouth of the river. This site is believed to be eligible for the National Register of Historic Places.

TIMBER: The area is primarily second growth forest. The valley bottom was logged extensively.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National System lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
52.6	.438	.438

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The communities in the area were traditionally supported by the logging and forest products industries. The economy of the area is increasingly changed by the thousands of visitors yearly attracted to the scenic and recreation qualities of the area. These include camping, hiking, hunting, and fishing.

CURRENT ADMINISTRATION: The upper 1 1/2 miles of the river is within the Alpine Lakes Wilderness. These, plus other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. These lands are in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Taylor River for the next five years:

	Expected Expenses Independent of Designation	**Addit. Expenses with Designation**
General Administration	$ 1,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		3,800
Development Costs	87,000	20,000
Operation and Maintenance Costs		4,000
Total - First Five Years	**$88,000**	**$30,800**

General administration and operation and maintenance costs are estimated to continue at $1,200 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Transition	211
		Wilderness-General Trailless	190
		Alpine Lakes Dispersed Recreation	42
Segment 2	Scenic	Wilderness-General Trailless	274
		Alpine lakes Dispersed Recreation	865
		Alpine Lakes Scenic	675
Segment 3	Recreation	Alpine Lakes Scenic	211

PRATT RIVER

King County

The Pratt River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters near Melakwa Lake in the Alpine Lakes Wilderness to its confluence with the Middle Fork Snoqualmie River.

Segment 1 - Headwaters at Melakwa Lake in the NE 1/4 of Sec. 25, T.23N., R.10 E. to the Alpine Lakes Wilderness boundary (1.6 mi).

Segment 2 - Alpine Lakes Wilderness boundary to the confluence with the Middle Fork Snoqualmie River (7.9 mi).

RIVER MILEAGE:

Study:	9.5 miles
Eligible:	9.5 miles
Forest Plan	9.5 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Pratt River was found to possess "Outstandingly Remarkable" values for the following: Recreation, Geological, Fisheries, Wildlife and Ecological.

There is moderate to heavy hiking use near Tuscohatchie Lake and moderate hunting use near the mouth. An old trail system that originally ran the whole length of the Pratt River is scheduled to be reconstructed at a future date. There is also light fishing use.

Clay formations called concretions are found in the river and along its banks in the lower stretches.

The Pratt River area has extensive winter range for black-tailed deer and mountain goats. There are also excellent riparian and furbearer habitats for black bear, beaver and other furbearers.

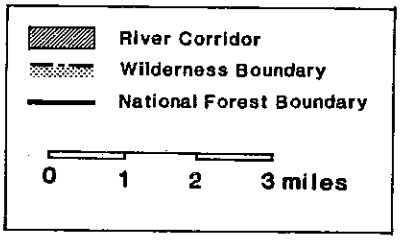
The Pratt River hosts a population of resident cutthroat trout.

The Pratt drainage supports stands of low elevation old-growth. The old-growth is predominant in the wilderness and near the river's mouth.

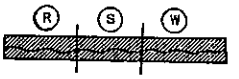
POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	1.6	Wild	1.6
Segment 2	Wild	7.9	Recreation	7.9

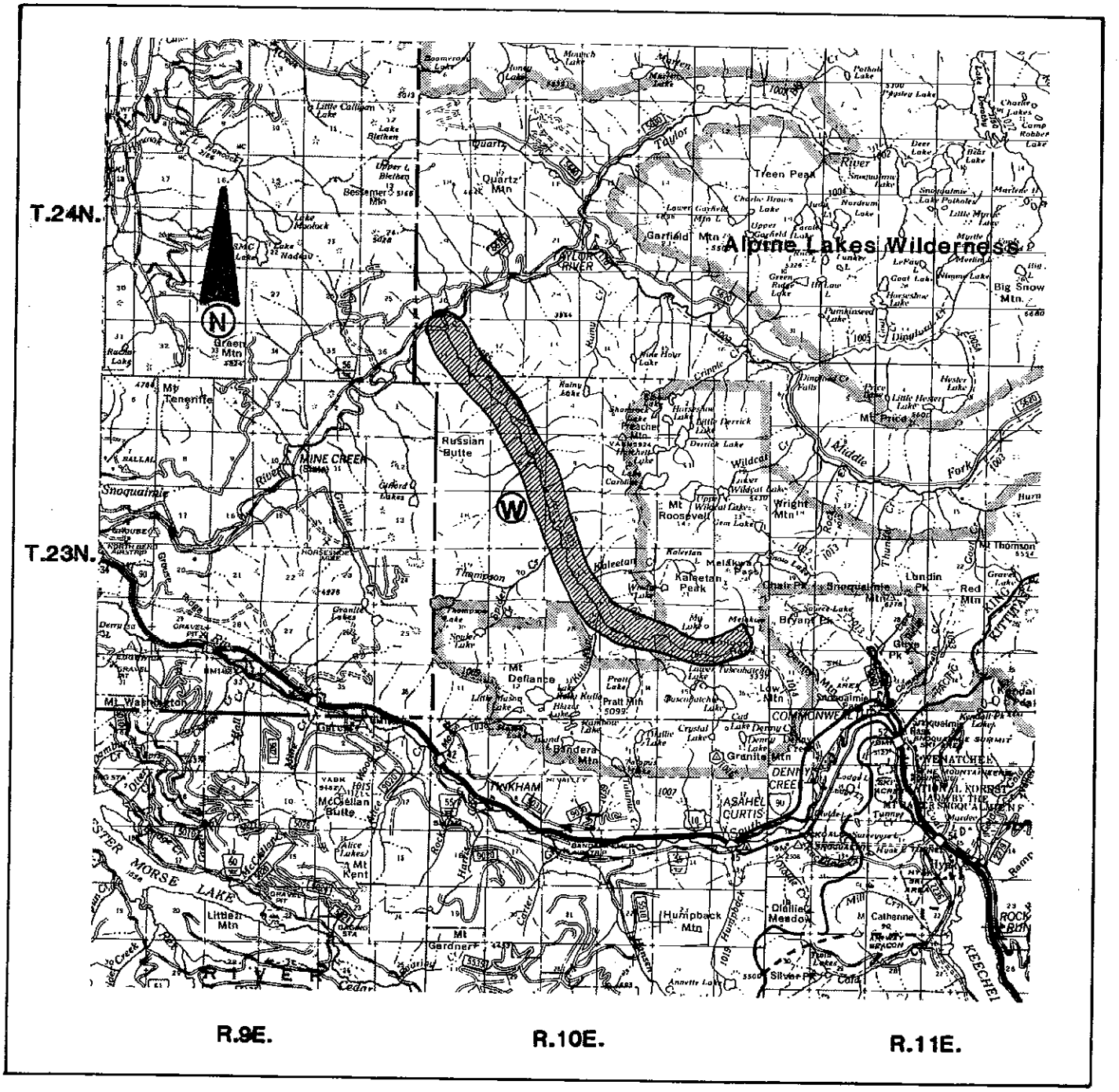
Pratt River



Potential River Classification



R - Recreational
S - Scenic
W - Wild



SUITABILITY DETERMINATION:

The Pratt River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due its many outstandingly remarkable values. It is one of the few relatively undisturbed drainages in the North Cascades. The Pratt received the greatest number of site-specific comments during the DEIS public response period; nearly all of these comments supported Wild and Scenic River designation and/or protection from timber harvesting.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
Mt. Baker-Snoqualmie National Forest (Alpine Lakes Wilderness - 1.6 mi)	1.6 miles	512 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	6.7 miles	2,168 acres
Private	1.2 miles	360 acres
Total	9.5 miles	3,040 acres1/

1/Acres based on a 1/4-mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: None of the river segment is classified by the BLM as an area of critical mineral potential or is encumbered by unpatented mining claims. A review of available literature indicates that the area has only one reported locatable mineral prospect, which is a tungsten prospect located in Section 27, T.23N., R.10 E.

The BLM has classified the entire river as being prospectively valuable for geothermal resources. The area is not considered to have potential for the occurrence of other leasable mineral commodities and none of the area has been encumbered by mineral leases or lease applications.

Based upon the available information, it appears that the river has a relatively low potential for the occurrence of locatable mineral resources. There is no serious interest in the locatable minerals. The area does have a potential for the occurrence of geothermal resources, but no serious interest in that resource is currently being expressed.

WATER RESOURCE DEVELOPMENT: No water impoundments exist on the Pratt River. The Pratt River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

A preliminary permit for a hydroelectric project has been issued by FERC. The proposed project facilities consist of a transmission line, diversion structure, power house and pen stock. The project capacity will be 44 megawatts.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are no roads, trail bridges, home sites or campgrounds along the river.

The Pratt River Trail (#1035) follows an old railroad grade up the river, beginning near the confluence with the Middle Fork Snoqualmie. In places, the trail is within 1/4 mile of the river. Currently, there is no direct access to the trail. The trailhead is reached by fording across the Middle Fork Snoqualmie River.

About half the length of the river flows through a clearcut area created in the 1940's.

RECREATION ACTIVITIES: There is moderate to heavy hiking use near Tuscohatchie Lake and moderate hunting use near the mouth. An old trail system that originally ran the whole length of the Pratt River is scheduled to be reconstructed at a future date. The lower portion of the drainage receives low recreation use due to the lack of access. There is light fishing use and no use by rafters, kayakers or swimmers.

	1988 RVD'S	Projected 2000 RVD'S
Waterplay (swim, wade)	50	75
Fishing, Hunting	200	300
Camping	50	75
Viewing (scenery, wildlife, driving for pleasure)	500	760
Misc. (hike, picnic, berry picking, etc.)	1,000	1,960
TOTAL	1,800	3,170

WILDLIFE AND FISHERIES: The Pratt River area has extensive winter range for black-tailed deer and mountain goats. There are also excellent riparian and furbearer habitats for black bear, beaver and other furbearers.

The Pratt River hosts a population of resident cutthroat trout. There are no anadromous fish due to the impassable falls on the Snoqualmie River.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The river contains lengthy reaches with moderate gradients and good pool-riffle conditions. Short stretches of rapids are common. Fourteen tributaries drain into the river.

The water quality is excellent. The lower one mile has clay banks which contribute to sedimentation. The bottom of the river consists of gravel-rubble.

GEOLOGY: Granite, granodiorite, hornblend gneiss, and associated rock types comprise the bedrock geology in this area. Past glaciation has carved out the valley and left deposits of glacial till and unstable lacustrine materials in this mostly U-shaped valley. Clay banks along the lower river contain interestingly shaped hard clay concretions. Long forested valley sideslopes merge into rock outcrops and perennial snow patches on ridgetops and peaks.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Pratt River. Few project surveys have been done and historical research is limited. There are no known localities used for traditional Indian religious practices within the potential Wild and Scenic River corridor.

Around the turn of the century, there were mining interests near the headwaters of the river. None of these early claims is within the river corridor. However, there was a trail known in the 1890's as Tuscohatchie Creek and provided access to the iron ore deposits.

The North Bend Logging Company extended a logging railroad up the Pratt in the early 1900's. Evidence of this railroad can still be seen. There are no sites within the river corridor listed on the National Register of Historic Places.

TIMBER: The Pratt River drainage is primarily in second growth forest. Most of the valley bottom was railroad logged in the 1940's.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest systems land only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
54.2	3.230	2.957

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The mouth of the Pratt is located approximately 10 miles from North Bend (pop. 1,825). The community was traditionally supported by the logging and forest products industries. Currently, it is attracting many residents whose employment is in Seattle. The economy of the area is increasingly changed by the thousands of visitors yearly attracted to the scenic and recreation qualities of the area which include camping, hiking, hunting, and fishing.

CURRENT ADMINISTRATION: The upper 1.6 miles of the river are in the Alpine Lakes Wilderness. These, plus other National Forest lands in the drainage, are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. This river is in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Pratt River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 2,000	$2,000
Costs of Implementation		2,000
Development of Management Plan		3,500
Development Costs	35,000	
Total - First Five Years	**$37,000**	**$7,700**

General administration and operation and maintenance costs are estimated to continue at $800 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Wild	Wilderness-Trailled	253
		Wilderness-General Trailless	316
Segment 2	Recreation	Old Growth Habitat (spotted owl)	570
		Deer and Elk Habitat Enhancement	337
		Goat Habitat	42
		Timber Management	718
		Alpine Lakes Dispersed Recreation	105
		Alpine Lakes Scenic	190

SOUTH FORK SNOQUALMIE RIVER

King County

The South Fork Snoquamie River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters at Source Lake three miles north of Snoqualmie Pass, downstream to its confluence with the Snoqualmie River.

Segment 1 - Headwaters at Source Lake in NE 1/4 of Sec. 30, T.23N., R.11 E. to the confluence with the Snoqualmie River (30.6 mi).

RIVER MILEAGE:

Study:	30.6 miles
Eligible:	30.6 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The South Fork Snoqualmie River was found to possess "Outstandingly Remarkable" values for the following: Wildlife, and Historical/Cultural.

The river corridor contains excellent habitat for black-tailed deer, elk, black bear and furbearers.

The South Fork was the natural travel route between Snoqualmie Pass and the mainstream Snoqualmie. This cross-cascade route was known in the middle 1800's as the Indian Foot Trail. Other historic period sites represent mining, railroad and logging activities.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Recreation	30.6	None recommended	0

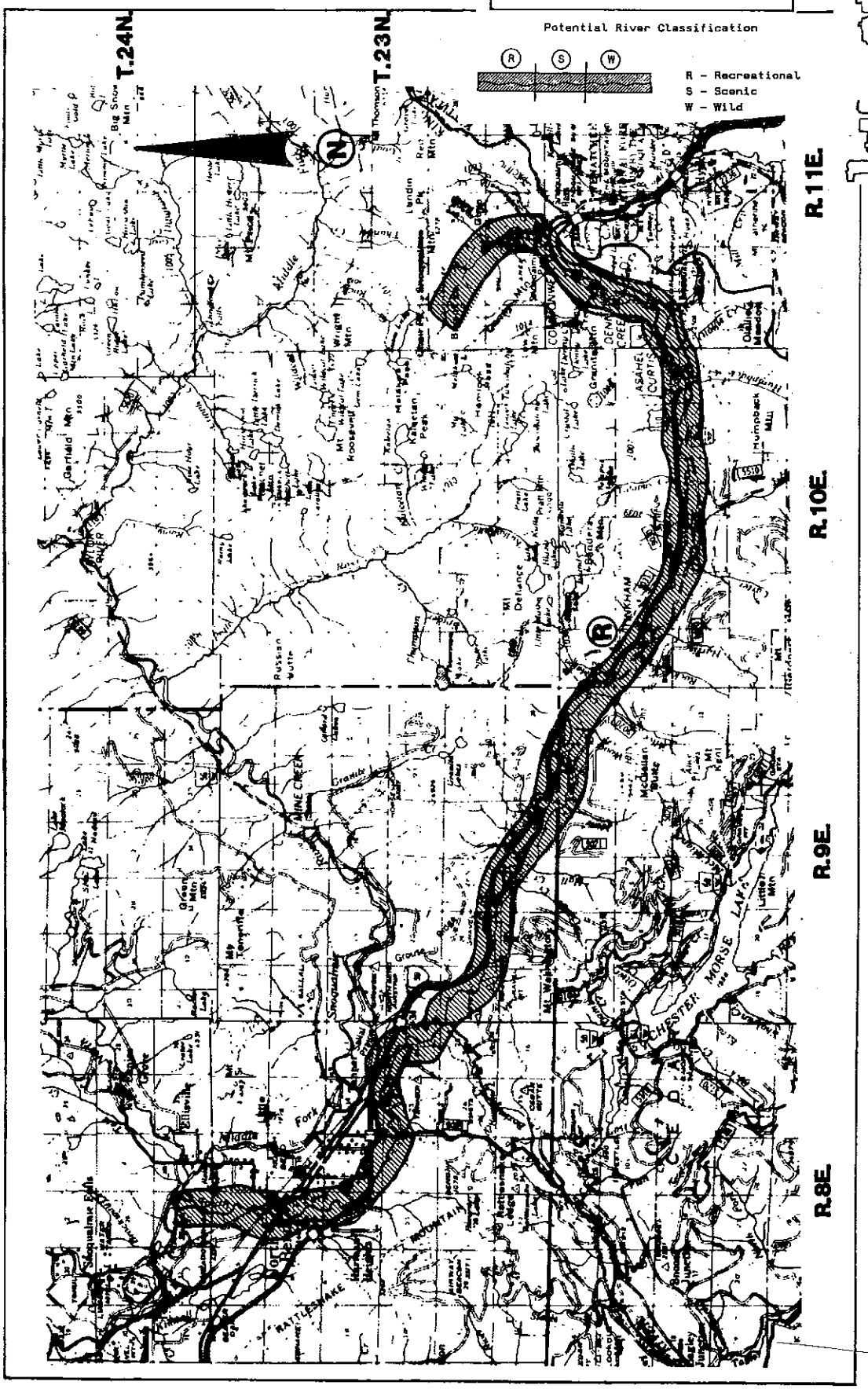
SUITABILITY DETERMINATION:

The South Fork of the Snoqualmie River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to low public support, and because most of the river is in state or private ownership.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest	9.0 miles	2,880 acres
State Park	0.9 miles	288 acres
Private	19.5 miles	6,224 acres
State	1.2 miles	400 acres
Total	30.6 miles	9,792 acres

South Fork Snoqualmie River



MINERAL AND ENERGY RESOURCE ACTIVITIES: None of this river segment is classified by the BLM as an area of critical mineral potential. BLM mining claim recordation data indicates that only thirteen mining claims have been located along the river. Of those thirteen, ten have been abandoned or have been declared to be null and void. A review of available literature does indicate that a few precious and base metal prospects do occur along the river. However, none are known to have experienced any significant exploration or development activity. The Denny Mountain limestone deposit is reported to occur in Sections 5 and 6, T.22 N., R.11 E. None of the deposit appears to lie within the river corridor.

The BLM has classified the eastern 6 miles of the river as being prospectively valuable ("PV") for coal resources and the eastern 12 to 14 miles as "PV" for geothermal resources. None of the area has been encumbered by mineral leases or lease applications.

Based upon the available information it appears that the area does have at least a low potential for the occurrence of both base and precious metal resources. Little interest in such resources is currently being expressed. Portions of the area also have a potential for both coal and geothermal resources. However, no interest in these resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: There are a number of falls which prevent fish migration along the upper 6 to 7 miles.

Two FERC projects are located on the South Fork Snoqualmie. One has been constructed on Weeks Falls with impacts in the proposed corridor consisting of a transmission line, a diversion structure and penstock, and a powerhouse. The project generates 3.5 megawatts of power and is located on State Park lands.

The other FERC Project is at Twin Falls. Facilities within the river corridor consist of a transmission line, a diversion structure and penstock and a powerhouse. The project capacity is 19 megawatts of power. This project is also located on State Park lands.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: Interstate 90 parallels the river for most of its length. Numerous other forest roads also parallel and cross the river.

There are at least 14 bridge crossings. Several are major interstate highway bridges.

There are farms along the lower 10 miles of the river.

Numerous home sites, commercial businesses, and the town of North Bend are found at the lower end of the river.

There are several cabins above Twin Falls and twelve summer homes in the Denny Creek area.

The upper 3 1/2 miles of the river is in the permit area of downhill ski areas.

Forest Service campgrounds are found at Denny Creek (39 sites plus 1 group site), Tinkham Road (47 sites) and Commonwealth (6 tent sites). Asahel Curtis Picnic Area (28 sites) is just downstream from Olallie Creek. Twin Falls State Park is also found on the river, though it is currently undeveloped with difficult access.
Trails that begin near the South Fork include the Asahel Curtis Nature Trail (#1023), the Wagon Road (#1021), the Denny Creek Trail (#1014), the McClellan Butte Trail (#1015), and Annette Lake Trail (#1019). The Franklin Falls Trail (#1036), and Snow Lake Trail (#1013) parallel stretches of the river.

The proposed Sound to Mountain Trail would parallel the South Fork from Cedar Falls to Cabin Creek, using the old Burlington-Northern Railroad grade.

Fifty-five acres of land have been acquired by King County to create Three Forks Park at the confluence of the North, Middle and South Forks of the Snoqualmie River. The final size of the park is proposed to be 905 acres. The plan calls for the park to be managed as a natural area for wildlife habitat.

Camp Waskowitz is located 2 miles east of North Bend. The camp is owned by the Shoreline School District.

The old Milwaukee Railroad Covered Bridge crosses the river north of Highway 202.

Powerlines cross the river in the SE 1/4, Sec. 4 north of North Bend and at the confluence with Boxley Creek (below Twin Falls State Park).

Dikes have been placed along the river banks near the town of North Bend to protect residents and businesses from floods up to the 500-year flood plain.

Extensive sections of rip-rap are found from Snoqualmie Pass to the mouth of the river.

The only known section of channelization is near Twin Falls State Park, where the Washington D.O.T. re-channeled the river to put in a bridge for Interstate 90.

There is a small emergency airfield open to the public in Section 16, T.22 N., R.10 E.

RECREATION ACTIVITIES: The ski areas at Snoqualmie Pass are very popular destination stops during the winter. Denny Creek Road, as well as other area roads, receive moderate cross-country skiing use.

The campgrounds along Interstate 90 are heavily used throughout the summer months. A popular nature trail loops around the Asahel Curtis Picnic Area. Numerous trailheads are located within the river drainage. Many receive heavy use during summer weekends.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	65	110
Waterplay (swim, wade)	4,000	6,000
Fishing, Hunting	5,000	7,200
Camping	54,000	81,000
Viewing (scenery, wildlife, driving for pleasure)	5,000	7,600
Misc. (hike, picnic, berry picking, etc.)	26,640	52,215
TOTAL	94,705	154,125

WILDLIFE AND FISHERIES: The river corridor area has excellent riparian habitat for black-tailed deer, black bear and furbearers. Elk also inhabit the area.

There is no natural utilization by salmon above Snoqualmie Falls. The Falls are located over three miles downstream from the South Fork. Hatchery propagated chinook and coho juveniles are occasionally planted in the South Fork Snoqualmie, making use of its available rearing potential. A large portion of the river provides high quality production habitat, suitable for use by adult and juvenile salmon. The South Fork Snoqualmie has an important population of wild resident trout. Special fishing restrictions promote a quality fishery.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Numerous falls, cascades and rapids occur in the upper 7 miles of the river. Below Change Creek, is a narrow channel with numerous cascades and rapids with 2 large falls. Approximately 30 small tributaries feed into the South Fork Snoqualmie. Each one is a short, very steep mountainous stream.

Water quality is excellent.

GEOLOGY: Granite, granidorite, and associated rock types comprise the bedrock geology. Past glacial activity has carved out this mostly U-shaped valley. A ravine-like valley persists.

CULTURAL RESOURCES: No systematic archaeological survey has been done of the South Fork Snoqualmie River and no prehistoric resources are known. The lack of sites is believed to reflect survey patterns rather than lack of use. There are documented prehistoric sites on the mainstream Snoqualmie and the South Fork is the natural travel route between Snoqualmie Pass and the mainstream Snoqualmie. This cross-cascade route was known in the middle 1800's as the Indian Foot Trail.

Locations used by the Indian community for practice of their traditional religion exist within the corridor.

During the Indian conflict of 1855 - 56, Fort Smalley was built in the vicinity of North Bend. It was abandoned shortly thereafter and is presently marked by a plaque and listed on the county historic site inventory.

Attention was focused on a transportation system after the decline of military activity. The first train of six wagons crossed Snoqualmie Pass and followed the route along the South Fork in 1865. In 1905, the first motorized traffic passed along the route. Segments of this original route are preserved.

The Chicago, Milwaukie and St. Paul Railroad was built across Snoqualmie Pass and along the South Fork in 1908.

Other historic period sites represent mining and logging activities. Iron-ore was mined in the vicinity of the headwaters during the 1880's - 90's. In the early 1900's, the South Fork Timber Company operated an immense mill three miles upriver from North Bend. The railroad was being constructed up the South Fork at this time. None of the sites known from these activities is listed on the National Register of Historic Places.

TIMBER: Harvest units are common on Forest Service lands along the upper slopes, but these rarely reach down into the river corridor. Logging on private lands is extensive in this drainage.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	----------ASQ----------	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
79.7	1.060	1.052

1/ Based on preferred alternative with management requirements.

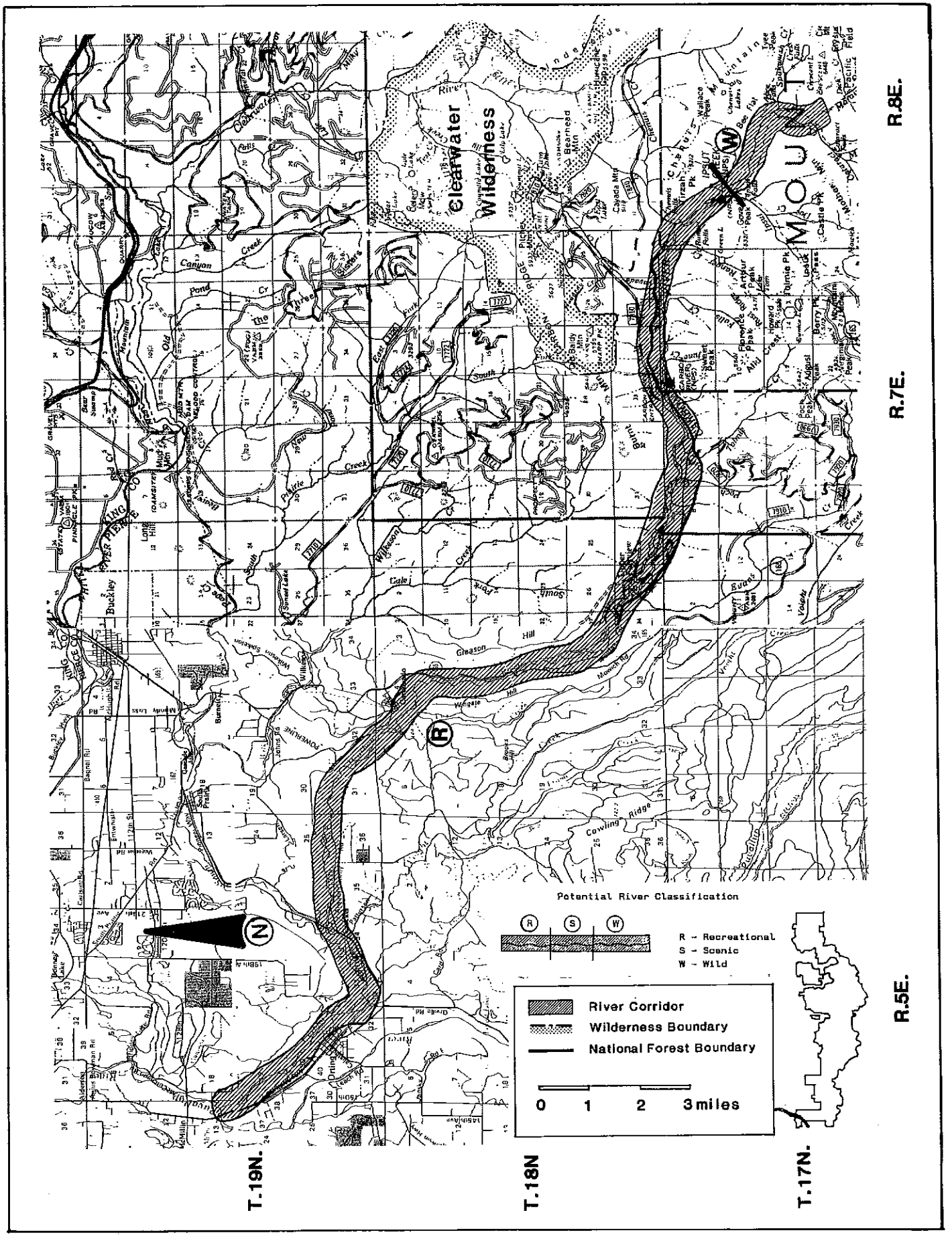
SOCIO-ECONOMIC EFFECTS: The lower portion of the South Fork Snoqualmie River flows through the community of North Bend, population 1,825. North Bend has traditionally been dependent upon the timber industry. The community is now a retail and service area for residents in the upper Snoqualmie Valley and is promoting its industrial development potential. Additionally, the recreation and scenic attractions of the area and the nearness to Seattle attract thousands of visitors each year. Alpine skiing, cross-country skiing, camping, hiking, hunting and fishing are available and contribute to the economy of the area.

CURRENT ADMINISTRATION: Public lands along the river are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service. These lands are in the Alpine Lakes Area under management direction found in the Alpine Lakes Management Plan.

Under the guidelines of the the Washington State Shoreline Management Act of 1971, the shoreline of the South Fork Snoqualmie has been classified by King County as:

Northern Bank: Conservancy from the National Forest boundary in Sec. 33, T.23N., R.11 E downstream to approximately the N/S centerline of the NW 1/4 of the NW 1/4 of Sec. 24, T.23N., R.8 E.

Carbon River



Rural from approximately the N/S centerline of the NW 1/4 of NW 1/4 of Sec. 24, T.23N., R.8 E downstream to bridge on Cedar Falls Road in Sec. 22, T.23N., R.8 E.

Conservancy from the bridge on the Cedar Falls Road in Sec. 22, T.23N., R.8 E downstream to the confluence with the Main Fork of Snoqualmie River in Sec. 33, T.24 N., R.8 E.

Southern Bank: Conservancy from the Snoqualmie National Forest boundary in Sec. 33, T.23N., R.11 E downstream to east section line of Sec. 23, T.23N., R.8 E.

Rural from the east section line of Sec. 23, T.23N., R.8 E. downstream to the bridge on the Cedar Falls Road in Sec. 22, T.23N., R.8 E.

Conservancy from the bridge on the Cedar Falls Road in Sec. 22, T.23N., R.8 E. downstream to the confluence with the Main Fork of Snoqualmie River in Sec. 33, T.24 N., R.8 E.

These classifications are applicable only to lands outside of federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Rural designation denotes areas characterized by agricultural uses, low density residential where most urban services are not available, and areas which provide buffer zones and open space between predominantly urban areas.

The King County Comprehensive Plan has zoned the land along the South Fork Snoqualmie for Forestry Use for the area above Twin Falls. Below Twin Falls the area is zoned for Rural Use, permitting 1 home per 2.5 to 10 acres.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the South Fork Snoqualmie River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 2,000	$ 2,000
Costs of Implementation		12,000
Development of Management Plan		56,000
Development Costs	221,000	75,000
Operation and Maintenance Costs	177,000	15,000
Total - First Five Years	**$400,800**	**$160,700**

General administration and operation and maintenance costs are estimated to continue at $39,200 annually.

CARBON RIVER

Pierce County Mt. Rainier National Park

The Carbon River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

A bill is currently in the State Legislature to designate the Carbon River, from its headwaters in Mt. Rainier National Park to its confluence with the Puyallup River, a State Scenic River.

LOCATION: From its headwaters in Mt. Rainier National Park to its confluence with the Puyallup River.

Segment 1 - Headwaters on Carbon Glacier on the northwest slopes of Mt. Rainier to Ipsut Creek (4.0 mi).

Segment 2 - Ipsut Creek to the confluence with the Puyallup River (28.4 mi).

RIVER MILEAGE:

Study:	32.4 miles
Eligible:	32.4 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

Note: This recommendation is pending evaluation by the National Park Service.

OUTSTANDINGLY REMARKABLE VALUES: The Carbon River was found to possess "Outstandingly Remarkable" values for the following: Scenic and Fisheries.

From the river, there are occasional, dramatic views of Mt. Rainier. Near the headwaters the steep gradient produces numerous cascades and waterfalls. The water course continues to flow through rapids and steep cascades and, in several places, through canyons.

Chinook, pink, chum and coho salmon spawn and rear in the river. There are also populations of dolly varden and sea-run and resident cutthroat trout.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	4.0	Not recommended	0.0
Segment 2	Recreation	28.4	Not recommended	0.0

SUITABILITY DETERMINATION:

The Carbon River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to the low amount of the total length within the National Forest. This river received little support in the response to the Draft EIS, but was listed as a suitable addition to the State Scenic River System in the 1988 Washington State Scenic River Assessment.

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Rainier National Park	4.0 miles	1,280 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	1.2 miles	240 acres
Mt. Rainier National Park	5.0 miles	1,600 acres
Private	21.7 miles	7,088 acres
State	0.5 miles	160 acres
TOTAL	32.4 miles	10,368 acres1/

almost all federal land in NP

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Even though approximately three miles of this river have been identified by the BLM as lying within an area of critical mineral potential, a review of available literature, including the Bureau of Mines MILS data, indicates that the area has no reported occurrences of locatable mineral resources. The area does have numerous reported occurrences of coal, and sand and gravel resources, some of which have produced in the past.

The BLM has classified the western 25 miles of the river as being prospectively valuable ("PV") for oil and gas resources and the eastern 5 miles as "PV" for geothermal resources. Most of the area is classified "PV" for coal, with a large portion of the classification being valuable for coal resources. Numerous occurrences of coal are reported for Sections 4, 5, 9 and 27, T.18 N., R.6 E., some of which have produced in the past. Of most interest, is the part of the river that crosses a deposit near Carbonado. This deposit is reported to contain resources of bituminous coal in numerous beds 28 inches to greater than 42 inches thick. The reserve is significant. In addition to the coal, interest in oil and gas has been expressed, and Sections 4 and 6, T.17 N., R.7 E. and Section 3, T.18 N., R.8 E. are presently encumbered and/or have been encumbered by oil and gas leases.

Based upon the available information it appears that the area has a relatively low potential for the occurrence of locatable mineral resources. No serious interest in the locatable mineral is currently being expressed. However, the area does have known coal resources and also has potential for the occurrence of oil, gas and geothermal resources. Interest in the oil and gas is currently being expressed in the maintenance of existing leases.

WATER RESOURCE DEVELOPMENT: There are no water impoundments in the river drainage. A preliminary permit for a FERC project has been granted for a location downstream from Prairie Creek on private land. The Carbon River below Tolmie Creek is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

The Carbon River Entrance provides campers, hikers and sightseers access to the northwest corner of Mt. Rainier National Park.

	1988 RVD'S	Projected 2000 RVD'S
Fishing, Hunting	2,000	2,880
Camping	500	750
Viewing (scenery, wildlife, driving for pleasure)	5,000	7,600
Misc. (hike, picnic, berry picking, etc.)	500	980
TOTAL	8,000	12,210

WILDLIFE AND FISHERIES: Elk, deer, bald eagles, mountain goats and various species of waterfowl are found within the Carbon River drainage.

Chinook, pink, chum and coho salmon spawn and rear as far upstream as Fairfax. Cold glacial waters and cascades limit further migration. Deep pools located in the lower river offer excellent holding and resting areas for adult salmon and provide exceptional rearing habitat. Dolly varden, and sea-run and resident cutthroat trout are also found in the river. The Washington Department of Fisheries established the Voight Creek Salmon Hatchery in 1917.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The Carbon River is fed by the Carbon Glacier on Mt. Rainier. Near the river's headwaters, the gradient is precipitous and there are numerous cascades and a few waterfalls. The narrow valley floor then broadens and the river gradient becomes moderately steep. The river channel is less confined and partially unstable with much channel splitting and some braiding. Below the town of Fairfax, side walls form a canyon with a steep gradient. There are numerous rapids and steep cascades separated by short, lesser gradient pool-riffle stretches. There is a cascade area at Carbonado followed by a 3.5 mile deep and narrow ravine. The river channel then widens and narrows intermittently with channel splitting and deep pools. The last 6 miles are a continuous series of long channel split sections down to the confluence with the Puyallup River. Twenty-two tributaries drain into the Carbon River. Water quality is discolored due to glacial runoff.

GEOLOGY: Volcanic pyroclastic and andesitic rocks compose the bedrock geology of the youthful valley. This river begins abruptly at the terminus of the Carbon Glacier at low elevation. This river is unique in that for approximately the first 15 miles the river channel is very wide and braided. It is sediment choked from the massive amount delivered by the Carbon Glacier allowing it to swing wildly throughout its channel. The valley does narrow to a deep ravine near the crossing of State Highway 165.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Carbon River and no resources are known. Localities used by Indians to practice their traditional religion exist within the river corridor.

Coal was discovered in the Carbon River area in 1862. Mining activities increased when the suitability of coal for manufacturing coke was realized. For the next 50 years, small towns (such as Carbonado, Melmont and Fairfax) located within the corridor, developed to provide housing, supplies, and services for the workers and their families. Regular rail shipments were made to the Puget Sound and San Francisco Bay markets. The market declined in 1920.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are a number of roads within the drainage, including: Fairfax Carbon Glacier Road, State Highway 165, Patterson Road, Orting Kapowsin Road and State Highway 162.

State Highway 162 parallels the river from McMillan to Crocker, where a highway bridge crosses the river at its confluence with South Prairie Creek. Highway 165 parallels the Carbon River from Carbonado to 1/2 mile south of the Fairfax Bridge. The highway crosses the river on the Fairfax Bridge. The Carbon River Road/Forest Highway 11 parallels the river from 1/2 mile south of the Fairfax Bridge to the end of the road inside Mt. Rainier National Park.

An abandoned railroad crossing traverses the river in Sec. 27, T.18 N., R. 6 E. at Fairfax.

Forest Road 7810/Copley Lake Road crosses the Carbon River near the National Park Boundary. The gabion construction of the bridge requires additional stabilization on the north side of the river. This crossing has washed out twice in the last 5 years.

Powerlines cross the river in Sec. 4, T.19 N., R.6 E. (at Carbonado)

The river has a history of flooding and is heavily channelized.

There is scattered land development around the mining towns of Fairfax and Carbonado. Farms are found in the vicinity of the town of Orting.

The Voight Salmon hatchery is located just east of Orting.

A National Park Service Campground is located at Ipsut Creek, at the end of the Carbon River Road. There are 29 sites.

The Chenius Falls Trailhead, inside Mt. Rainier National Park, is located 2 miles east of the Carbon River Entrance. The trail crosses the river.

The Moraine Park Trail, also inside Mt. Rainier National Park, begins at the Ipsut Creek Campground. The trail follows the Carbon River to its headwaters on the Carbon Glacier and then continues to Moraine Park and Mystic Lake. Portions of the this trail intersect the Wonderland Trail, which circles the base of Mt. Rainier. There is one river crossing.

The "Valley to Foothills Trail", a new "Rails to Trails" project, has been proposed. The route of the Northern Pacific Railway would become a foot trail, beginning at the confluence of the Carbon and Puyallup Rivers and ending at the town of Carbonado. This trail would parallel the Carbon River to Crocker, head north away from the river corridor along Highway 162 through South Prairie and Wilkeson, and meet the river again at Carbonado. The trail would cross the Carbon River at Crocker.

RECREATION ACTIVITIES: Except for fishing, river-based Recreation use of the Carbon River is low. Steelhead trout and coho salmon are heavily fished with sea-run cutthroat trout, dolly varden and resident trout also fished. There are above average conditions for canoeing and kayaking, except for a 4-mile stretch in the vicinity of Carbonado. Due to glacial discoloration and very cold temperatures, swimming is not practical.

It is expected that a cultural resource inventory of historic sites within the corridor would result in the documentation of sites associated with these settlements and the mining activities.

Timber interests were growing as mining declined during the early 1900's. Several small companies used the railroad along the Carbon River to transport logs for sale to the mill in Fairfax. By 1930, much of the private timber had been removed, and by 1933, many of the companies went out of business.

TIMBER: Logging is the principal land use outside the National Park.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest lands only.

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
24.0	.240	.240

1/ Based on preferred alternative with management requirements.

LIVESTOCK GRAZING: There is some grazing on private land in the lower valley and flatland areas.

SOCIO-ECONOMIC EFFECTS: The Carbon River is paralleled by trail and then by road, passing through the small communities of Carbonado, Wilkeson, Burnett, South Prairie and Orting. Increasingly inhabited by people who work in the Tacoma area, these communities were traditionally supported by farming and the forest product industries. Thousands of visitors every year seek the scenic and recreation opportunities of the area and make their contribution to the local economies.

CURRENT ADMINISTRATION: The upper 9 miles of the river are in Mount Rainier National Park which is administered by the National Park Service (NPS). The headwaters downstream to Ipsut Creek Campground are in the Mt. Rainier National Park Wilderness. Downstream from the campground to the NPS entrance headquarters, portions of the river corridor are in wilderness except for 100 feet on either side of the gravel road that parallels the river. National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, approximately 50 percent of the shoreline along the Carbon River has been classified by Pierce County as Natural. The remaining shorelines are classified Conservancy or Rural. These classifications are applicable only to lands outside of federal jurisdiction within 200 feet of the ordinary high water mark. A Natural designation denotes areas characterized by the presence of some unique natural features considered valuable in their undisturbed or original condition and which are relative intolerant of intensive human use. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Rural designation denotes shoreline areas that are characterized by agricultural uses, low density residential or areas providing open space between predominantly urban uses.

Sections 25, 26 and 27, all near the community of Crocker, are zoned for General Use by Pierce County.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Carbon River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 10,000	
Costs of Implementation		5,000
Development of Management Plan		58,700
Operation and Maintenance Costs	250,000	
Total - First Five Years	**$260,000**	**$63,700**

General administration and operation and maintenance costs are estimated to continue at $52,000 annually.

WHITE RIVER

King and Pierce Counties Mt. Rainier National Park

The White River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters in Mt. Rainier National Park downstream to the confluence with the Clearwater River.

Segment 1 - Headwaters at Emmons Glacier on the northeast slopes of Mt. Rainier to Huckleberry Creek (20.0 mi).

Segment 2 - Huckleberry Creek to the confluence with the Clearwater River (17.7 mi).

RIVER MILEAGE:

Study:	37.7 miles
Eligible:	37.7 miles
Forest Plan:	37.7 miles recommended for designation in preferred alternative

Note: This recommendation is pending evaluation by the National Park Service.

OUTSTANDINGLY REMARKABLE VALUES: The White River was found to possess "Outstandingly Remarkable" values for the following: Recreation, Fisheries, Wildlife and Historical/Cultural.

Trout fishing is a popular activity on the river. Good rafting exists from the West Fork Road bridge to the bridge at Bridge Camp. Campers, hikers and sightseers visit the area for access to the National Forest and Mt. Rainier National Park. There are magnificent views of Mt. Rainier from the river corridor.

Fish found in the White River include spring chinook and coho salmon, steelhead, dolly varden, rainbow and resident cutthroat trout.

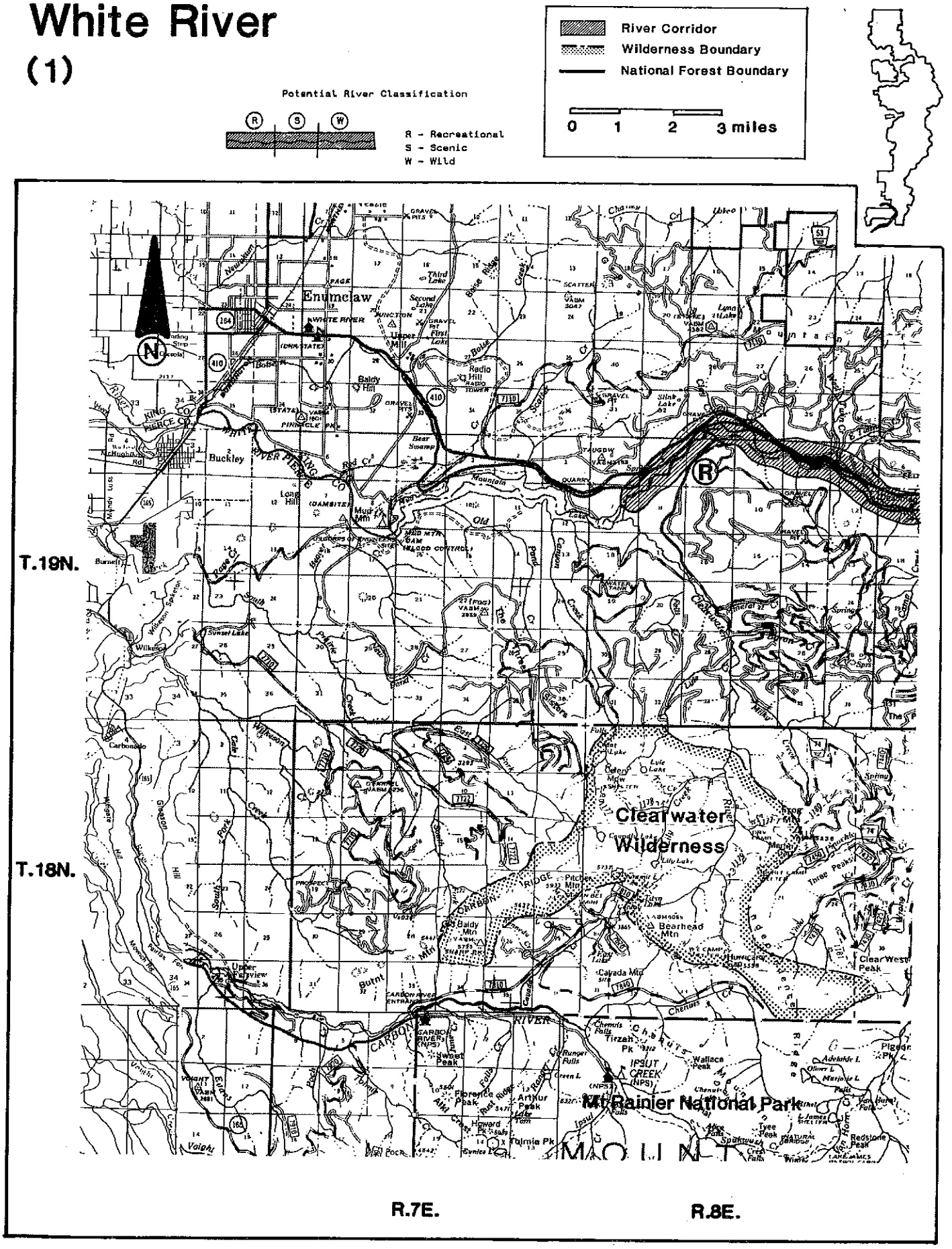
The area has excellent deer and elk winter range. Bald eagles and mountain goats are also a primary species of interest. A SOHA is centered on the river just north of Mt. Rainier National Park.

Historic period sites represent logging, recreation and Forest Service administration. During the 1930's there was a CCC camp located along the river and the construction of the Silver Creek Ranger Station was a result of that program.

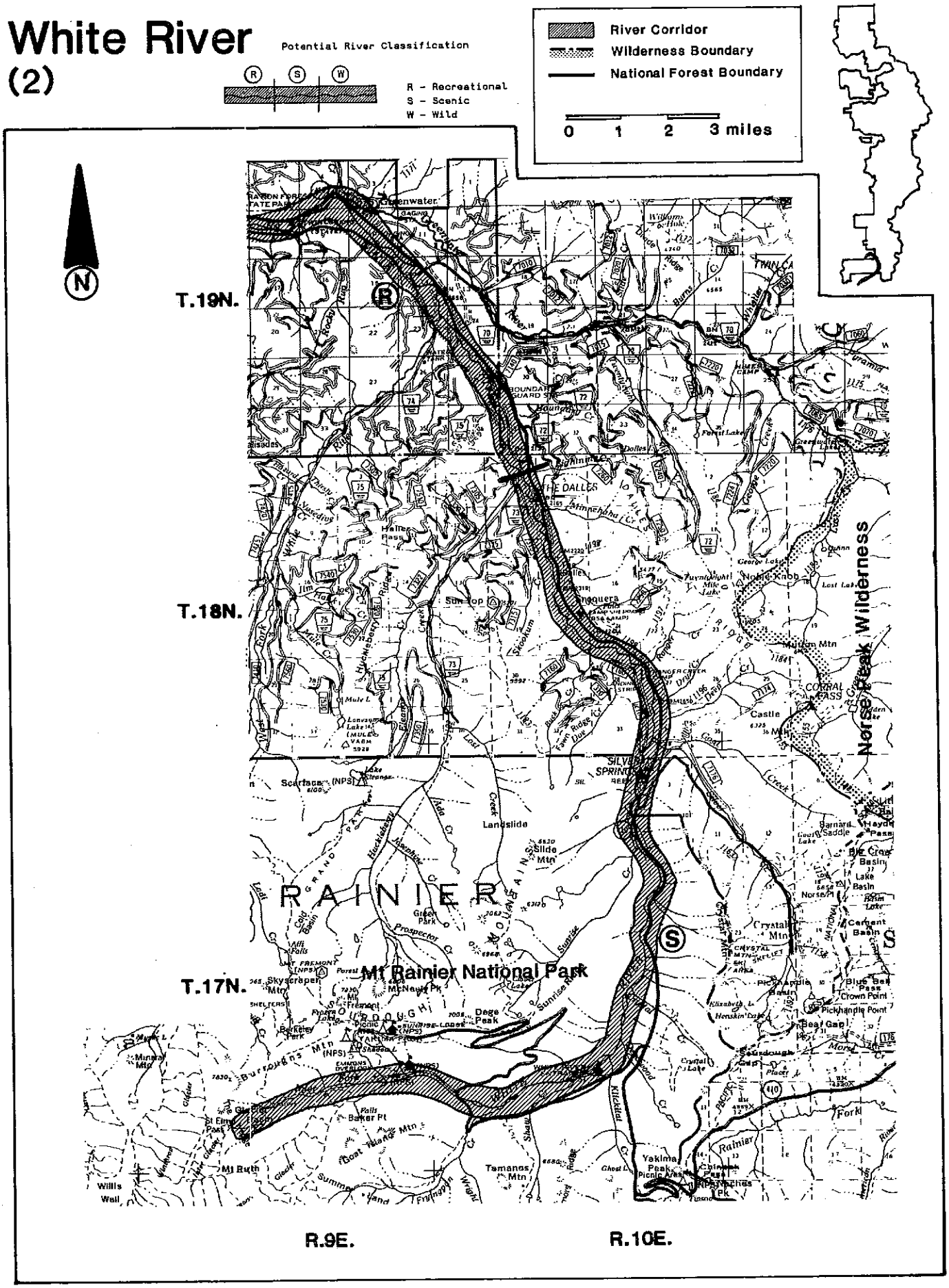
POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Scenic	20.0	Scenic	20.0
Segment 2	Recreation	17.7	Recreation	17.7

White River
(1)



White River
(2)



SUITABILITY DETERMINATION:

The White River was found to be suitable for inclusion in the preferred alternative of the Forest Plan due its many outstandingly remarkable values, few competing resource uses, and high public support for designation. Joint Forest Service and Park Service management is recommended.

LANDOWNERSHIP:

	River Miles	Corridor Acres
Segment 1		
NPS, Mt. Rainier National Park	13.3 miles	4,256 acres
Mt. Baker-Snoqualmie National Forest	6.7 miles	2,144 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.4 mile	128 acres
Private	15.9 miles	5,088 acres
State, Federation Forest State Park	1.4 miles	448 acres
TOTAL	37.7 miles	12,064 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither river segment is classified by the BLM as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates that there are clay deposits and sulfur and perlite prospects located in T.19 N., R.8 E., Sections 4, 7 and 11, and in T.19 N., R.8 E. Sections 32 and 33. The clay (alunite) deposit was first discovered in 1928 and at least 3,600 feet of diamond drilling and 4,400 feet of exploratory drilling has occurred. This deposit not only has significant potential for industrial uses, but it also represents a prime target for future precious metal exploration.

As indicated, the area has an alunite deposit. As a consequence, the western three miles has been classified as being prospectively valuable ("PV") for potassium resources. In addition, both river segments are classified as being "PV" for geothermal resources. The area is not considered to have potential for the occurrence of coal, nor is it classified "PV" for oil and gas. However, the following lands have been encumbered by oil and gas leases: T.18 N., R.10 E., Sections 5,6,7,8,17,20,21 and 34, T.19 N., R.10 E., Section 30 and T.17 N., R.10 E. Section 3.

Based upon the available information, it appears that most of the area has a relatively low potential for the occurrence of locatable mineral resources. No serious interest in the form of mining claims is currently being expressed. However, it does appear that the western five or six miles does contain known deposits of clay and possibly perlite, which may indicate a potential for the occurrence of a hydrothermal deposit of precious metals. That potential has not been appropriately evaluated. It also appears that the area has potential for the occurrence of geothermal resources. However, no interest in that resource is currently being expressed. The area is not "PV" for oil and gas but some interest has been expressed in the past with the issuance of noncompetitive leases. Whether such interest will continue is not known.

WATER RESOURCE DEVELOPMENT: Mud Mountain Reservoir extends from the confluence of the White and Clearwater Rivers downstream 5.5 miles to the Mud Mountain Dam. The reservoir is below the White River segments being considered for designation. The dam is earth core and rock-filled, and is 425 feet high and 700 feet long.
The White River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: There are numerous private roads, logging roads and Forest Service roads within the White River drainage. State Highway 410 parallels the river to the Mt. Rainier Park entrance. Park roads parallel the river to the White River Campground, 1 1/2 miles from Emmons Glacier.

Mather Memorial Parkway (State Hwy 410) has congressional designation and has been managed for recreation and viewing for pleasure.

Bridges cross the river at 6 locations.

The communities of Greenwater and Crystal Village are the only populated areas in the upper river above Mud Mountain Dam. There are approximately 180 recreation residences on private lands within the corridor.

Federation Forest State Park, 17 miles east of Enumclaw, contains 612 acres of virgin old growth forest. The park has an interpretive center depicting Washington flora and fauna, river access and a day-use area.

There are 2 National Forest campgrounds along the river. The Dalles Campground, near Minnehaha Creek, has 45 camp sites and 10 picnic sites. Silver Springs Campground has 56 camp sites and 10 picnic sites. Rip-rap is used to protect the campgrounds.

The Buck Creek Trail #1169 begins on State Highway 410, 28 miles from Enumclaw. The trail crosses the White River over a cable suspension bridge.

The Skookum Flats Trail, #1194, follows the west side of the White River for 8.2 miles. The trail begins on the Huckleberry Creek Road #73 and ends at the Mt. Rainier National Park Boundary.

The Dalles Nature Trail, #1204, and the Dalles River Trail, #1204-A, begin at Dalles Campground. The Nature Trail is within the campground and is a barrier-free trail open to wheelchairs. The River Trail follows the White River from the campground to the Huckleberry Creek Road #73.

The White River Trail, #1199, parallels Highway 410 for 6 miles, beginning at Corral Pass Road, #7174, and heading downhill. The trail is on the opposite side of the road from the river.

Rearing channels have been constructed to protect fish habitat.

RECREATION ACTIVITIES: Trout fishing is a popular activity on the river. Good rafting exists from the West Fork Road bridge to the bridge at Bridge Camp. However, the remainder of the river is too shallow in summer for use. There is incidental canoeing and kayaking use from the West Fork confluence to the Old Pond Creek just above Mud Mountain Dam.

There is moderate use along the river by campers and picnickers. Some ORV use occurs on the gravel bars. Many hikers and sightseers visit to the area to use the extensive trail system and for views of wildflowers, glaciers and Mt. Rainier.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power, nonpower)	500	825
Fishing, Hunting	500	720
Camping	100,000	150,000
Viewing (scenery, wildlife, driving for pleasure)	500,000	760,000
Misc. (hike, picnic, berry picking, etc.)	50,000	98,000
TOTAL	651,000	1,009,545

WILDLIFE AND FISHERIES: The area has extensive winter range for black-tailed deer and Roosevelt elk. Bald eagles and mountain goats are also primary species of interest. A SOHA is centered on the river just north of Mt. Rainier National Park.

Salmon are transported and released 10 miles above the dam near Greenwater. Spring chinook and coho salmon spawn in the shallow, slower moving riffle areas. Steelhead, dolly varden, rainbow and resident cutthroat trout also inhabit the waters. Major limiting factors to increased salmon production include flooding, heavy silt loads, low summer flows, limited food supply in glacial watersheds and extremely cold water temperatures.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The White River is a fast-flowing glacial stream, fed by the Emmons and Fryingpan Glaciers on Mt. Rainier. The river displays its mountainous origins with heavy boulders, deep-cut banks and a meandering channel with many splits. The river flows from the snowfields to a narrow valley floor with a steep, precipitous gradient. Near the community of Greenwater, the gradient moderates and the valley floor broadens slightly.

The river channel is unstable with numerous splits and braiding. The river contains falls, rapids, cascades and riffles. The gradient is approximately fifty feet per mile. There are 33 tributaries to the White River.

GEOLOGY: Andesitic, basaltic, and associated pyroclastic rocks comprise the bedrock geology of the valley.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the White River and no prehistoric resources are recorded. The lack of sites may reflect survey patterns rather than lack of use. Some prehistoric sites may be expected to be associated with the use of Naches Pass as a travel and trade route. When documented during the historic period, this route followed the White River for a portion of its length. Prehistoric sites have been found along the river below the Wild and Scenic River corridor.

In the late 1800's, the upper reaches of the White River were actively explored for gold and quartz. Access to these claims were by way of a horse trail that followed the river.

Historic period sites represent logging, recreation and Forest Service administration. During the 1930's there was a CCC camp located along the river. The construction of the Silver Creek Ranger Station was one result of the program. This historic ranger station is still visible from the highway and will be evaluated for inclusion on the National Register of Historic Places.

TIMBER: Outside of Mt. Rainier National Park, timber harvesting is a major land use activity. Extensive clearcut areas cover the area.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
97.5	.056	.052

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The White River with its headwaters in Mt. Rainier National Park at Emmons Glacier, is paralleled by State Highway 410 for much of its length. The highway passes through Greenwater, Buckley and Enumclaw. Logging and tourism help support the local economies. Many residents also find employment in the Tacoma and Seattle metropolitan areas.

Visitors come to this area to enjoy sightseeing in Mt. Rainier Park and the National Forest. Other recreation opportunities include climbing, hiking, skiing at Crystal Mountain Ski Area, cross-country skiing, ORV and horse use, fishing, hunting and camping.

CURRENT ADMINISTRATION: From its headwaters downstream 13.3 miles, the White River flows through Mount Rainier National Park, administered by the National Park Service. Some of the river corridor is classified Mt. Rainier National Park Wilderness where the corridor is beyond 200 feet of the road that goes to Sunrise Lodge. From there, the river flows through Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the White River has been classified as:

Conservancy from the National Forest Boundary to the community of Greenwater

Intermingled areas of Conservancy and Rural from the community of Greenwater to the confluence with the Clearwater River.

These classifications are applicable only to lands not under federal jurisdiction and within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development. A Rural designation denotes shoreline areas characterized by agricultural uses, low density residential where most urban services are not available and areas which provide buffer zones and open space between predominantly urban areas.

The north bank of the river lies in King County and the south bank in Pierce County. The King County Comprehensive Plan has zoned the land along the north shore of the White River corridor, outside of federal jurisdiction, for Forestry Use. Pierce County has zoned land along the south shore for General Use.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the White River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 1,000	$ 2,000
Costs of Implementation		10,000
Development of Management Plan		60,800
Development Costs	119,000	
Operation and Maintenance Costs	419,500	
Total - First Five Years	**$539,500**	**$72,800**

General administration and operation and maintenance costs are estimated to continue at $84,500 annually.

LAND ALLOCATION WITHIN RECOMMENDED WILD AND SCENIC RIVER:

This river is recommended for designation under the Wild and Scenic Rivers Act. The following lists the Forest Plan management emphasis allocations for the preferred alternative. (Note: This applies to lands administered by the National Forest Service.)

	Recommended River Classification	Management Emphasis	Acres
Segment 1	Scenic	Special Area - Mather Memorial Parkway	2,724
		Pine martin/pileated woodpecker habitat	42
Segment 2	Recreation	Scenic Corridor (Middleground)	42
		Special Area - Mather Memorial Parkway	211

CLEARWATER RIVER

Pierce County

The Clearwater River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From its headwaters on Bearhead Mountain in the Clearwater Wilderness to its confluence with the White River.

Segment 1 - The headwaters in the Clearwater Wilderness on Bearhead Mountain in the NW 1/4 of Section 28, T.18 N., R.8 E. to the Clearwater Wilderness boundary (3.6 mi).

Segment 2 - The Clearwater Wilderness boundary to the confluence with the White River (6.2 mi).

RIVER MILEAGE:

Study:	9.8	miles
Eligible:	9.8	miles
Forest Plan:	0.0	miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Clearwater River was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Wildlife.

The river corridor supports an extensive black-tailed deer and Roosevelt elk winter range. Spotted owls are found in the upper river drainage within the wilderness boundary.

Chinook and coho spawn and rear in the Clearwater. Resident cutthroat and rainbow trout populations are also found.

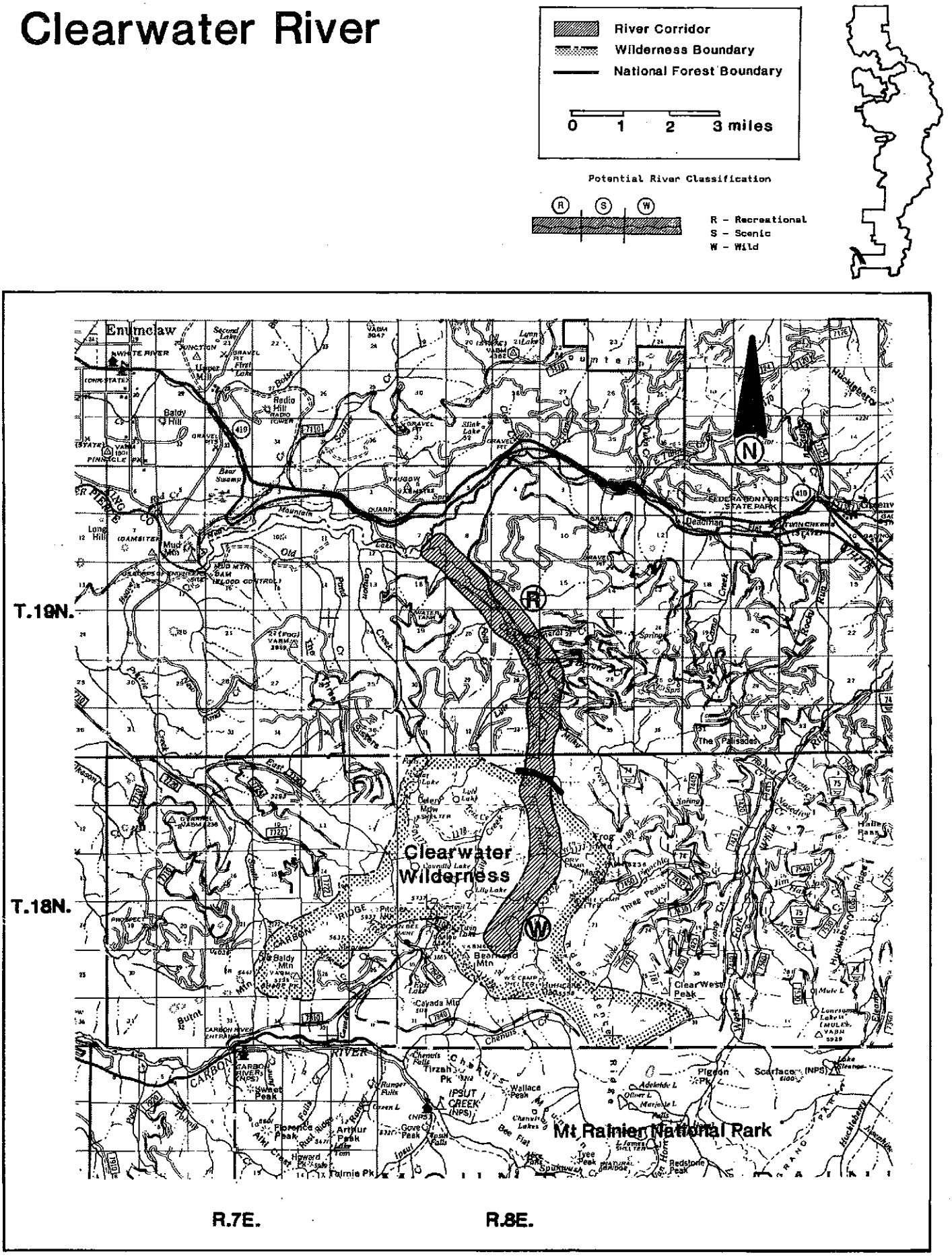
POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	3.6	Not recommended	0.0
Segment 2	Recreation	6.2	Not recommended	0.0

SUITABILITY DETERMINATION:

The Clearwater River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to the large amount of private ownership in the river corridor and low public interest. Wilderness designation protects the river inside of the National Forest.

Clearwater River



LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Clearwater Wilderness - 3.6 mi)	3.6 miles	1,152 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	0.4 mile	100 acres
Private	5.8 miles	1,884 acres
TOTAL	9.8 miles	3,136 acres1/

1/Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: The southern five miles, most of which lies in the Clearwater Wilderness area, have been classified by the BLM as an area of critical mineral potential. A review of available literature, including the Bureau of Mines MILS data, indicates that the area has no reported locatable mineral resources. BLM mining claim recordation data indicates that none of the area is currently encumbered by unpatented mining claims.

The north 1 mile of the river is classified by the BLM as prospectively valuable ("PV") for alunite (potassium-bearing clay) and the entire river is classified "PV" for geothermal resources. This may indicate a potential for the occurrence of precious metal resources. None of the area is currently encumbered by mineral leases or lease applications and no interest in those resources is currently being expressed.

WATER RESOURCE DEVELOPMENT: No water impoundments occur along the river. The Clearwater River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: A private forest road parallels the river. There are jeep trails and additional roads in the area. The private road crosses the Clearwater River approximately 2 1/4 miles south of its confluence with the White River.

There are no homes, farms or developed campgrounds along the river.

The Clearwater Trail #1178 crosses the Clearwater above Lily Creek.

RECREATION ACTIVITIES: There is a moderate amount of dispersed recreation use along the river. Steelhead, dolly varden, rainbow and cutthroat trout are frequently fished. There is limited kayaking from the private road bridge to the confluence with the White River.

	1988 RVD'S	Projected 2000 RVD'S
Misc. (hike, picnic, berry picking, etc.)	200	400

WILDLIFE AND FISHERIES: The river corridor supports an extensive black-tailed deer and Roosevelt elk winter range outside the wilderness. Spotted owls are found in the upper river drainage within the wilderness boundary.

Salmon are transported and released into the White River 10 miles above the dam near Greenwater. Adult chinook and coho salmon move downstream and into the Clearwater River. They have been observed as far as 5 miles up the Clearwater. Resident cutthroat and rainbow trout inhabit the entire drainage.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: The Clearwater River originates from springs and natural runoff on Bearhead Mountain and descends through a narrow, steep, heavily forested valley. In the lower 4 miles, the valley gradually broadens and the gradient moderates. Heavy rubble predominates with considerable angular rock and gravel in the lower portions of the river. There are several cascades in the river and a number of falls and cascades in the tributaries. Fourteen tributaries drain into the Clearwater River.

The Clearwater River is listed by the State Department of Ecology as a "River of Statewide Significance" based on water volume. The water quality is excellent.

GEOLOGY: The area is dominated by andesitic and associated pyroclastic rocks, with some granitic intrusions occurring in the headwaters area. Most of the valley is V-shaped, but does broaden somewhat as it leaves the Forest.

CULTURAL RESOURCES: No systematic cultural resource surveys have been made of the Clearwater River and there are no known resources. No known locations used for traditional religious practices are within the potential Wild and Scenic River corridor.

TIMBER: Logging is the principal activity outside of the wilderness. On private lands, there are some areas with extensive clearcuts.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	----------ASQ----------	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
6.9	.025	.025

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The Clearwater River flows into the White River approximately 8 1/2 miles east of the town of Enumclaw, near State Highway 410. Easy access to Mt. Rainier National Park, scenic drives, camping opportunities and numerous hiking trails attract visitors who help to boost the economies of communities such as Enumclaw (population 5,427) and Buckley (population 3,143). These communities rely upon the forest product industry, farming and tourism. Many residents of the area are employed in the Tacoma or Seattle metropolitan areas and commute daily.

CURRENT ADMINISTRATION: The Clearwater River originates and flows through 3 1/2 miles of the Clearwater Wilderness. The wilderness plus other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

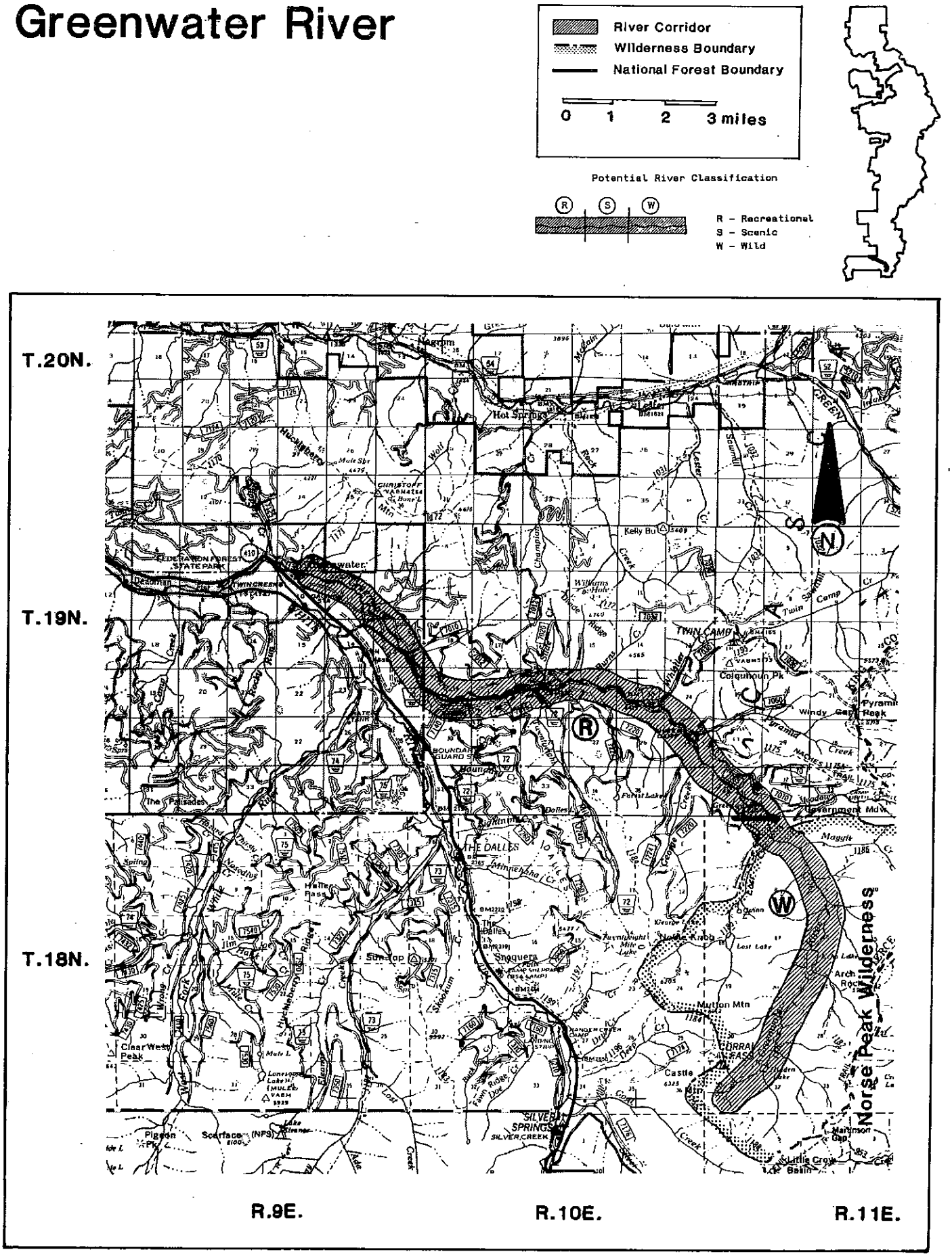
FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Clearwater River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$ 1,000	$ 1,000
Costs of Implementation		2,000
Development of Management Plan		15,100
Development Costs	70,000	
Operation and Maintenance Costs		
Total - First Five Years	**$71,000**	**$18,100**

General administration and operation and maintenance costs are estimated to continue at $400 annually.

Greenwater River



GREENWATER RIVER

Pierce County

The Greenwater River was studied for potential Wild and Scenic River designation by the MBS in conjunction with the Forest Planning process. The study included an eligibility and suitability assessment. The DEIS and Draft Plan were issued December, 1987. Public and other agency comment to the DEIS led to reevaluating eligibility and suitability.

LOCATION: From the headwaters on Castle Mountain to the confluence with the White River, near the community of Greenwater.

Segment 1 – Headwaters on Castle Mountain in the SW 1/4 of Sec. 5, T.17 N., R.11 E. to the Norse Peak Wilderness boundary (8.4 mi).

Segment 2 – Norse Peak Wilderness boundary to the confluence with the White River (13.0 mi).

RIVER MILEAGE:

Study:	21.4 miles
Eligible:	21.4 miles
Forest Plan:	0.0 miles recommended for designation in preferred alternative

OUTSTANDINGLY REMARKABLE VALUES: The Greenwater River was found to possess "Outstandingly Remarkable" values for the following: Fisheries and Historical/Cultural.

The Greenwater River is one of the principal spawning areas for spring chinook. Also found are coho salmon, eastern brook trout and resident cutthroat and rainbow trout.

A historic cross-country travel route through Naches Pass follows A PORTION OF the Greenwater. Other historic sites represent early homestead claims.

POTENTIAL AND RECOMMENDED CLASSIFICATION:

Segment	Potential Classification	Miles	Recommended Classification in Preferred Alt.	Miles
Segment 1	Wild	8.4	Not recommended	0
Segment 2	Recreation	13.0	Not recommended	0

SUITABILITY DETERMINATION:

The Greenwater River was found to be not suitable for inclusion in the preferred alternative of the Forest Plan due to high competing resource values.

Appendix E
Greenwater River

LANDOWNERSHIP:

Segment 1	River Miles	Corridor Acres
Mt. Baker-Snoqualmie National Forest (Norse Peak Wilderness - 8.4 mi)	8.4 miles	2,688 acres
Segment 2		
Mt. Baker-Snoqualmie National Forest	8.5 miles	2,720 acres
Private	4.5 miles	1,440 acres
TOTAL	21.4 miles	6,848 acres1/

1/ Acres based on a 1/4 mile corridor on each side of the river.

MINERAL AND ENERGY RESOURCE ACTIVITIES: Neither river segment is classified by the BLM as an area of critical mineral potential nor encumbered by unpatented mining claims. A review of available literature, including the Bureau of Mines MILS data, indicates that none of the area has reported occurrences of locatable mineral resources.

The BLM has classified the entire river as being prospectively valuable ("PV") for geothermal resources. None of the area is considered to have potential for the occurrences of other leasable mineral commodities. Even though it is not classified "PV" for oil and gas, the following lands have been encumbered by noncompetitive oil and gas leases, all of which have terminated: T.18 N., R.11 E. Sections 5,9,29 and 32, and T.19 N., R.10 E., Sections 20,22 and 24.

Based upon available information, it appears that the area has a relatively low potential for the occurrence of locatable mineral resources. No interest in such resources is currently being expressed. The area does have potential for the occurrence of geothermal resources and some of the area has been encumbered by oil and gas leases in the past. However, no interest is currently being expressed in those resources.

WATER RESOURCE DEVELOPMENT: There are no water impoundments on the river. The Greenwater River is classified as "Protected" from hydropower development by the Northwest Power Planning Council.

TRANSPORTATION, FACILITIES AND OTHER DEVELOPMENTS: The area is served by Forest Road 70 and several private logging roads. They cross and recross the river through "checkerboard" ownership to Meadow Creek. There are plan to pave Forest Road 70 in 1989.

Highway 410 crosses above the confluence with the White River at the community of Greenwater. In addition, the Greenwater is crossed three times by other roads.

The community of Greenwater is the only populated area. Except for a few summer homes along the river banks, there is little development.

There are many dispersed sites, but no developed campgrounds along the river.

The Naches Wagon Road Trail #1175 begins near the intersection of Forest Roads 70 and 7060. The trails heads over Naches Pass into the Wenatchee National Forest.

The Echo Lake Trailhead #1176 is also located at the intersection of Forest Roads 70 and 7060. The trail parallels the river past Greenwater Lakes to Echo Lake. The trail then continues up the Greenwater River to Hidden Lake, before heading uphill to Corral Pass. There are numerous dispersed campsites along the trail.

Portions of the river are channelized to stabilize a meandering river for the purpose of improving salmon rearing and spawning.

RECREATION ACTIVITIES: There is heavy dispersed camping and ORV use along the river. Many of the sites are accessed by hiking along the river.

Canoeing and kayaking use occurs sporadically along the lower 6 miles. There is swimming and wading during late summer. Steelhead, resident rainbow and cutthroat trout fishing is extremely popular.

	1988 RVD'S	Projected 2000 RVD'S
Boating (power and nonpower)	500	825
Waterplay (swim, wade)	4,000	6,000
Fishing, Hunting	2,000	2,880
Camping	45,000	67,500
Viewing (scenery, wildlife, driving for pleasure)	2,000	3,040
Misc. (hike, picnic, berry picking, etc.)	10,000	19,600
TOTAL	63,500	99,845

WILDLIFE AND FISHERIES: Elk, deer, eagles, great egrets, and various waterfowl present. There is extensive winter range for black-tailed deer and Roosevelt elk.

Small to moderate numbers of coho populate the Greenwater. The river is one of the principal spawning areas for spring chinook in the White River drainage system. Adult salmon swim upstream as far as Burns Creek, where steep gradients and cascades block further access. Eastern brook trout and resident cutthroat and rainbow trout inhabit the entire river system. Logging activity in the drainage has reduced streamside cover and increased the rate of siltation.

STREAMFLOW, GRADIENT AND VALLEY PROFILE: Along the upper 12 miles, the river drops steeply and rapidly. There are numerous cascades, small lakes and falls above George Creek. Below Burns Creek the gradient moderates and the channel takes a more winding course toward the community of Greenwater. A few stretches have numerous channel splits. Over the lower four miles, the river flows through a relatively broad, flat valley with good pool-riffle balance.

The river bottom is composed primarily of bedrock and boulders. Thirty tributaries flow into the Greenwater River.

GEOLOGY: Andesitic, basaltic, and associated pyroclastic rocks comprise the bedrock geology of this area. Most of the valley is V-shaped but broadens somewhat during the last 5 miles or so.

CULTURAL RESOURCES: No systematic archaeological survey has been made of the Greenwater River. However, information is available from a number of project surveys. Evidence of use during the prehistoric period is present, but not abundant within the Wild and Scenic River corridor. The lack of sites is believed to represent survey patterns rather than lack of use. Prehistoric artifacts are thought to be associated with a cross-Cascade travel route through Naches Pass. This route was used during the historic period and followed a portion of the Greenwater.

The first non-Indian use of the Naches Pass Trail was probably by members of the Hudson's Bay Company in the 1830's. Efforts to establish a wagon road began in 1850 and continued for several years. In 1853, the historic immigrant wagon party made its way across Naches Pass, dropping into the Greenwater Valley and crossing the river 16 times. Portions of the trail are still visible and it is under consideration for inclusion on the National Register of Historic Places. It is currently listed on the State Historical Register.

Other historic sites represent early homestead claims, some of which were made for the financial gain of timber investors. Many were abandoned by 1910 with remains of some of the sites still found within the river corridor.

TIMBER: Logging is a principal activity with some areas having been extensively clearcut outside the Wilderness.

The following table describes total timber volume and annual sale quantity (ASQ) in millions of board feet for National Forest system lands only:

	ASQ	
Total Timber Volume (MMBF)	Preferred Alternative w/o W&SR Designation (MMBF/yr.)1/	Preferred Alt. with Eligible W&SR Designation (MMBF/yr.)1/
46.4	2.748	2.532

1/ Based on preferred alternative with management requirements.

SOCIO-ECONOMIC EFFECTS: The Greenwater River passes through a series of lakes, which are popular hiking and fishing destinations. Outside the wilderness area, the river is paralleled by roads to its confluence with the White River at Greenwater (pop. 100). Greenwater gains its economic support from the timber industry and by providing services to the many visitors who come to enjoy the many recreation opportunities in the National Forest and Mt. Rainier National Park.

CURRENT ADMINISTRATION: The upper 8 miles of the river is within the Norse Peak Wilderness. The wilderness and other National Forest lands are administered by the Mt. Baker-Snoqualmie National Forest, USDA Forest Service.

Under the guidelines of the Washington State Shoreline Management Act of 1971, the shoreline of the Greenwater River has been classified as Conservancy by King and Pierce Counties. This classification is applicable only to non-federal lands within 200 feet of the ordinary high water mark. A Conservancy designation denotes shoreline areas which are primarily free from intensive development.

The land along the north shore of the Greenwater River, outside of federal jurisdiction, is zoned by King County for Forestry Use. The land along the south shore is zoned by Pierce County for General Use.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER:

The following are expected funding requirements for the Greenwater River for the next five years:

	Expected Expenses Independent of Designation	Addit. Expenses with Designation
General Administration	$150,000	
Costs of Implementation		50,000
Development of Management Plan		22,500
Development Costs		120,000
Operation and Maintenance Costs	30,000	30,000
Total - First Five Years	**$180,000**	**$177,500**

General administration, operation and maintenance costs are estimated to continue at $42,000 annually.